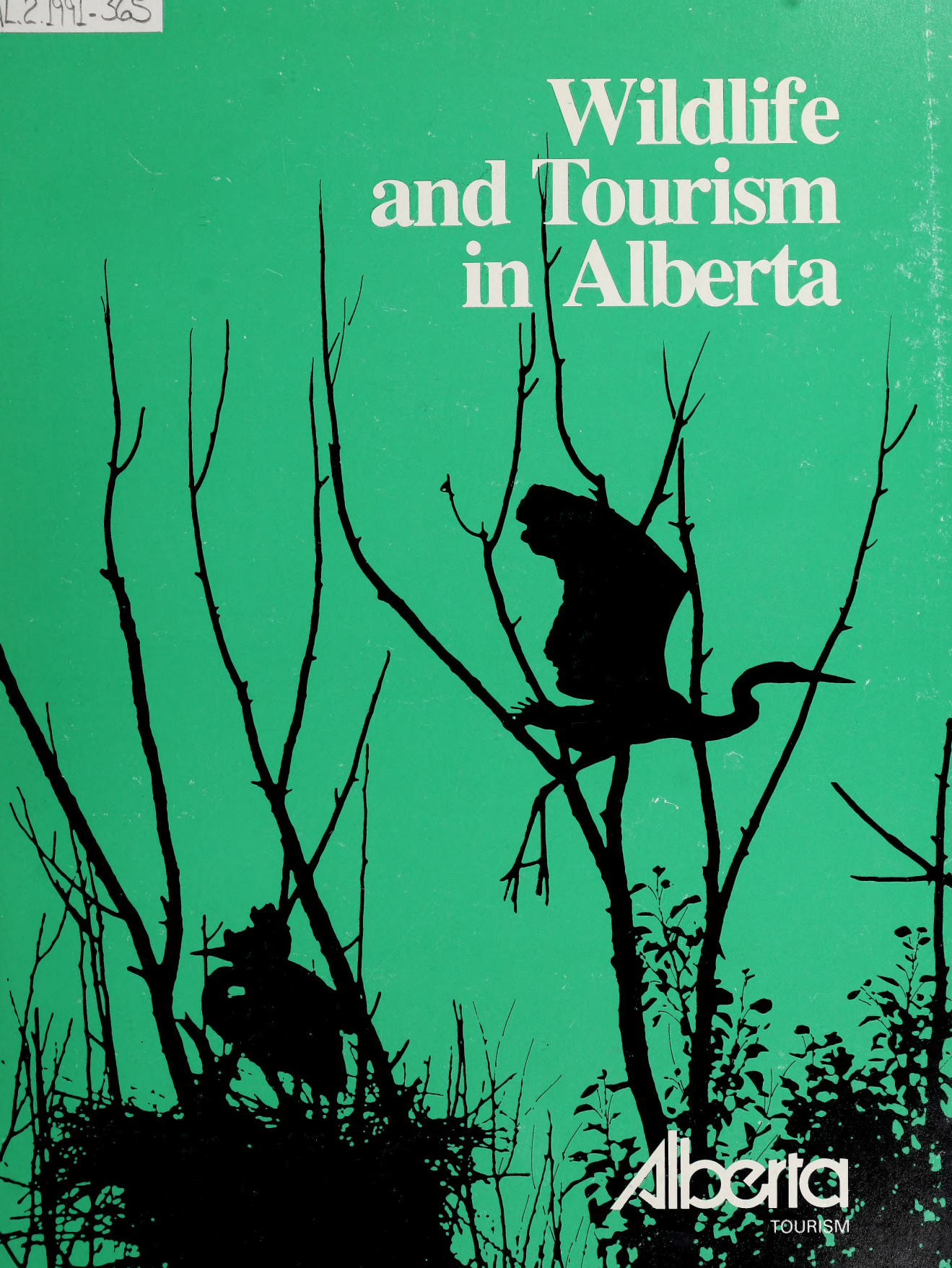
L.2.199-365

Wildlife and Tourism in Alberta



Alberta
TOURISM

To Whom It May Concern:

The attached consultant [illegible] provides an assessment of wildlife as a tourism opportunity in the Provinces of Alberta. The study seeks to [illegible] the information on: the economics of wildlife tourism; participation rates and demographic profile of wildlife tourists; an inventory of wildlife resources and opportunities in Alberta; and several recommendations regarding implementation of a wildlife tourism strategy for the Province.

It should be noted that the study was conducted by an independent consultant commissioned by Alberta Tourism and does not represent government policy.

If you have any comments regarding the report, please contact:

Manager, Regional Planning Unit
Planning Division
Alberta Tourism
[illegible] Floor, 10025 [illegible]
[illegible] Alberta

Limited number of copies are available by contacting the above or by telephoning 427-2501.

Yours sincerely,

Bernard R. Campbell
Deputy Minister
Alberta Tourism

CANADIANA

AUG - 6 1991

Travel Alberta
CANADA

To Whom It May Concern:

The attached consultant's report provides an assessment of wildlife as a tourism opportunity in the Province of Alberta. The study seeks to provide information on: the economics of wildlife tourism; participation rates and a demographic profile of wildlife tourists; an inventory of wildlife resources and opportunities in Alberta; and several recommendations regarding implementation of a wildlife tourism strategy for the Province.

It should be noted that the study was conducted by an independent consultant commissioned by Alberta Tourism and does not represent government policy.

If you have any comments regarding the report, please contact:

Manager, Regional Planning Unit
Planning Division
Alberta Tourism
16th Floor, 10025 Jasper Avenue
Edmonton, Alberta
T5J 3Z3

A limited number of copies are available by contacting the above or by telephoning 427-2501.

Yours sincerely,

Bernard F. Campbell
Deputy Minister
Alberta Tourism

Travel Alberta
CANADA

To Whom It May Concern:

The attached consultant's report provides an assessment of wildlife as a tourism opportunity in the Province of Alberta. The study seeks to provide information on the economics of wildlife tourism, participation rates and a demographic profile of wildlife tourists; an inventory of wildlife resources and opportunities in Alberta; and several recommendations regarding implementation of a wildlife tourism strategy for the Province.

It should be noted that the study was conducted by an independent consultant commissioned by Alberta Tourism and does not represent government policy.

If you have any comments regarding the report, please contact:

Manager, Regional Planning Unit
Planning Division
Alberta Tourism
10th Floor, 10025 Jasper Avenue
Edmonton, Alberta
T5J 3Z3

A limited number of copies are available by contacting the above or by telephoning 427-2501.

Yours sincerely,

Bernard P. Campbell
Deputy Minister
Alberta Tourism

Wildlife and Tourism in Alberta

prepared for

Alberta Tourism

by

PRISM ENVIRONMENTAL CONSULTING SERVICES

March, 1988

0 911461

Executive Summary

Wildlife tourism is a major, and apparently growing, component of the tourism industry.

The results of a 1981 national survey indicate 20.0% of the Alberta population participated in primary non-consumptive wildlife related trips, spending an average of 20.1 days per participant on this activity. Expenditures by these participants amounted to $258.9 million with 52.7% spent on equipment, 21.0% on transportation, 12.6% on food and 8.1% on accommodation.

That same year 11.4% of the Alberta population hunted, spending an average of 15.4 days per participant at this activity. Expenditures by hunters amounted to $204.6 million, with 60.5% spent on equipment, 17.4% on transportation, 8.4% on food and 3.0% on accommodation.

The combined expenditures of over $463 million does not include expenditures by non-residents.

Demographic profiles of participants in primary non-consumptive wildlife trips indicate that they are younger and better educated than the average population. The gender and residence (urban vs rural) reflect average population.

Hunters, on the other hand, are predominantly male (90%), rural (50%) and less educated than the average population.

This information suggests that the principal market for enhancing wildlife tourism exists in primary non-consumptive activities.

Alberta possesses a wide variety of wildlife tourism opportunities with many of them of a *world class* calibre. In addition, many of these lie on or adjacent to major highways. At the same time, an examination of wildlife tourism activities in other jurisdictions indicates Alberta is doing virtually nothing to develop these opportunities.

Recommendations are presented which will lead to enhancement of the wildlife tourism potential in Alberta.

Digitized by the Internet Archive
in 2015

https://archive.org/details/wildlifetourismi00pris

Table of Contents

PAGE

INTRODUCTION 2
PURPOSE 4
METHODS 5
RESULTS AND DISCUSSION 7
Economics of Wildlife Tourism 8
Participation in Wildlife Related Activities 8
Non-consumptive 8
Consumptive 8
Economic Value of Wildlife-Related Activities 11
Indirect Benefits 11
Expenditures–Non-consumptive 11
Expenditures–Consumptive 13
Direct Benefits 19
Capitalized Value 19
Summary of the Economics of Wildlife Tourism 21
Economics of Wildlife Tourism in Alberta 22
The Demography of Wildlife Tourism 32
Attitudes Toward Wildlife and Wildlife-Related Activities 36
Incidental Wildlife Encounters During Other Outings or Trips 36
Wildlife Tourism Opportunities in Alberta 39
Non-consumptive Opportunities 40
Consumptive Opportunities 43
Wildlife and Tourism in Other Jurisdictions 44
Banff National Park 44
Jasper National Park 48
Waterton National Park 49
Elk Island National Park 50
Wood Buffalo National Park 51
Saskatchewan 52
British Columbia 52
Northwest Territories 52
Yukon Territory 53
Alaska 55
Challenges in Wildlife Tourism Enhancement 59
Implementation Framework For Alberta 62
The Immediate 62
The Long Term 63
CONCLUSIONS 65
RECOMMENDATIONS 66
LITERATURE CITED 67
PERSONAL COMMUNICATIONS 70

List Of Tables

TABLE		PAGE
1	Participation Rates and Average Number of Days Spent Per Participant On Primary Non-Consumptive Wildlife Related Trips In 1981	9
2	Participation Rates And Time Spent On Recreational Hunting By Canadians, In 1981	10
3	Participation Rates And Time Spent Hunting In 1981, By Residence	10
4	Expenditures On Primary Non-Consumptive Wildlife Related Trips By Canadians, In 1981 By Province Of Residence	12
5	Distribution Of Dollars Spent On Primary Non-Consumptive Wildlife-Related Trips By Canadians	14
6	Average Daily And Yearly Expenditures On Recreational Hunting In 1981, By Province Of Residence	15
7	Expenditures On Recreational Hunting By Residents Of Canada, According To Type Of Game, In 1981	16
8	Percentage Distribution Of Dollars Spent, And Per Capita Expenditures On Recreational Hunting In 1981, By Province Of Residence	17
9	Estimated Direct Benefits Received By Participants In Wildlife-Related Recreational Activities In 1981, By Province Of Residence	18
10	Capitalized Value Of Direct Benefits Received By Canadians Who Participated In Wildlife-Related Recreational Activities In 1981	20
11	Wildlife Certificate Holders And Estiamted Number Of Active Hunters, Alberta	23
12	Estimated Participation Rates Of Resident And Non-Resident Hunters In Alberta In 1984	24
13	Direct Benefits Received From Recreational Hunting In Alberta, Per Hunter Per Season And Per Day, 1986 Dollars	25
14	Expenditures By Resident Hunters In Alberta, 1975-76 Season, And By Non-resident Hunters In Alberta, 1976-77 Season, 1986 Dollars	27
15	Total Benefits Received By Resident And Non-resident Zone 1 Moose Hunters In 1968, 1968 Dollars	30
16	Net Economic Contribution Of Big Game Zone 1 Moose Resource, In 1968, To Alberta And Northern Alberta, 1968 Dollars	30
17	Profile Of Participants In Wildlife-Related Activities In Canada In 1981	33
18	Attitudes Of Canadians Toward Wildlife And Wildlife Related Recreational Activities In 1981	37
19	A Comparison Of Visitation Rates And Wildlife Resources In Several Areas	45
20	Visitation Rates Per Season For National Parks Located In Alberta	47
21	Alaska's Special Areas Highlighted On The Promotion Video	57
22	Average Expenditures ($) Per Day By Goat, Moose And Deer Hunters In Southeast Alaska, In 1985	58

Introduction

As civilization has progressed and/or changed so has the interaction between people and wildlife in a global context. The first several million years can be described as a subsistence interaction where wildlife was a principal source of food and clothing, and humankind and wildlife existed in a prey/predator environment. In some *primitive* societies (Bushmen of South Africa) this interaction still persists as perhaps the dominant one.

In the past few thousand years we have seen the evolution of other interactions. Roman armies received some of their training by stalking and pursuing large mammals. By the middle ages the *"Sport of Kings"*, recreation hunting, had emerged as an interaction. The early exploitation and settlement of Canada epitomized the commercial exploitation of wildlife resources. The Hudsons Bay Company not only represented the fur harvest but perhaps more importantly represented the early administrative infrastructure for a largely unsettled land. The passenger pigeon and bison were perhaps the most noteworthy victims of commercial exploitation.

In the early decades following the turn of the century sport hunting emerged as the primary interaction – perhaps best illustrated by the exploits of President Teddy Roosevelt. This period also witnessed the first deliberate wildlife conservation efforts, largely funded by sport hunters then, as today. The refuge systems and National Park system flourished in the United States.

The past few decades have witnessed the emergence of, and more recently the apparent exponential growth of, a new mode of interacting with the wildlife resource. This new interaction, commonly described as non-consumptive, but perhaps more appropriately described as non-harvest, is best illustrated by the widespread behaviour known as viewing. In terms of participation rates and economic impact the non-consumptive wildlife interactions dominate the North American scene today.

The growth in wildlife tourism is epitomized by events in the Galapagos Islands. These islands, first made famous by Charles Darwin, are inhabited by a spectacular array of marine and terrestrial fauna – many of them found nowhere else in the world. Clearly the only reason to visit the Galapagos Island is to enjoy the wildlife resource – there are no hotels or telephones.

Organized tourism began in 1970 with the arrival of a cruise ship and sixty passengers. A total of 4,500 people visited that year. By 1986 this figure had climbed to 26,000 exceeding the planning goal of no more than 25,000 annually.

The thesis that is presented in this report is that consumptive and non-consumptive wildlife interactions are major tourism phenomena in a global context, and more importantly, Alberta has not effectively developed these opportunities as a vehicle for economic growth and diversification. Some options are presented in this report.

Purpose

The purpose of this investigation is to provide Alberta Tourism with information on the following aspects of wildlife as a tourism phenomenon:

1. The economics of consumptive and non-consumptive wildlife tourism.
2. Participation rates, demography and attitudes of wildlife tourists.
3. Some wildlife resource features and opportunities in Alberta.
4. An examination of how other jurisdictions are integrating wildlife into their tourism strategy.
5. Some challenges in effectively developing programs to enhance wildlife tourism opportunities.
6. An implementation strategy for Alberta.

Methods

Information for this study was secured by the following processes:

- discussion and communications with people knowledgeable in the areas of wildlife resources and tourism generally;
- communication with personnel in several states and provinces to elicit relevant aspects of their operational program;
- review of a wide range of wildlife and tourism literature, particularly pertaining to resource opportunities and economics;
- discussions with a few knowledgeable individuals on the evolution of wildlife tourism;
- a continuing dialogue with staff of Alberta Tourism.

Importantly the authors relied on their collective 30 years of experience in the fields of wildlife resources and related interactive opportunities.

Any error in the interpretation of data or personal communication is solely ours.

Before proceeding, some terms and definitions are appropriate:

Wildlife — as employed in this report refers to all terrestrial fauna.

Wildlife Tourism — is any positive interaction between a person and wildlife where the principle motive is to view or pursue wildlife.

Non-consumptive Use — recognizing that there is a whole spectrum of interactive mechanisms (i.e.: painting, photography, tactile, auditory, etc.) the primary mechanism is one of viewing.

Wildlife Tourist — in the context of this report a wildlife tourist is someone who deliberately interacts with the wildlife resource and in the process spends money to experience the opportunity.

Because of tradition and perhaps for lack of better terms, we continue to employ the terms consumptive and non-consumptive. Although the terms add clarity to a discussion because they categorize, the two cohorts are not mutually exclusive. The autumn waterfowl hunter can be and often is, the spring bird watcher. The two terms should be employed in the context of a continuum and not in the context of separation or polarity. The terms have no implication for their respective impacts on the wildlife resource.

Although the narrative focuses on wildlife tourism that is not to imply that wildlife is the only motive for the outing, but rather that wildlife can and does play a major part in the experience, in the context of a continuum. This continuum can be illustrated by the juxtaposition of Elk Island National Park, Beaverhill Lake and the Blackfoot Integrated Management Area.

The primary intent of most visitors to Elk Island may well be to view bison and other experiences may be a bonus.

The visitors to Beaverhill Lake experience large numbers and wide varieties of resident and migratory birds associated with wetlands.

The hiker in the Blackfoot experiences a whole array of flora and fauna that the Parkland biome has to offer. Wildlife is still an important constituent of that experience.

It follows then that there is a broad spectrum of wildlife tourists just as there is in the general tourist population. The narrative focuses on the ***average***.

The information presented in the following chapters focuses primarily on the provinces, territories and states that are geographically close to Alberta. This focus was chosen for two reasons:

1. These jurisdictions are similar to Alberta, both geographically and with respect to wildlife resources, and thus serve as good comparisons; and/or

2. They are important potential or existing markets for Alberta's tourism industry.

Alberta currently relies heavily on the Canadian tourism market. In 1982, 72% of the non-resident household parties that visited Alberta originated in Canada. Approximately 31% of these Canadian parties resided in British Columbia. The United States accounted for 23% of all the visiting parties, and other countries accounted for only 6% (Travel Alberta, 1983).

Results and Discussion

Economics of Wildlife Tourism

Central to any meaningful examination of the industry of wildlife tourism is an examination of the economic impact of the wildlife tourist interaction as we currently understand it in Canada.

Can enhancement of wildlife tourism make a significant contribution toward Alberta Tourism's goal of going from a 2.3 billion dollar industry today to a 10 billion dollar industry by the turn of the century? This, for Alberta, is the critical question.

At this point the reader is cautioned that the dollar figures collated below are in 1981 values and further, these are expenditures, etc. currently made by individuals in the absence of any overt attempt to promote and market wildlife tourism as a separate and unique phenomenon.

The most current economic data available concerning the importance of wildlife to Canadians and Albertans, are provided by a 1982 Statistics Canada National Survey* that was sponsored by the Canadian Wildlife Service. For the purposes of that survey wildlife-related activities were divided into four distinct categories, not all of which have potential for tourism. This report deals only with those categories that were identified as significant to wildlife related tourism. That is, those recreational activities that involved:

- a certain degree of travel, and
- direct, intentional encounters with wildlife species.

Two such categories listed in the survey were identified:

- primary non-consumptive wildlife-related trips, and
- recreational hunting.

The former category is defined as any trip or outing taken specifically to encounter wildlife for non-consumptive purposes such as viewing or photographing wildlife.

**The survey sampled 98% of the Canadian population aged 15 years and over. It did not include the population of Yukon and NWT, residents of Indian Reserves, full time members of the Canadian Armed Forces and inmates of institutions.*

Unless otherwise stated, the following data were drawn from three reports published by the Canadian Wildlife Service, that summarize results of the 1982 Statistics Canada Survey (Filion et al, 1983; 1985; Jaquemot et al, 1986). It should be noted that these data apply only to resident Canadians, and do not indicate the location of the activities that were undertaken.

Participation in Wildlife-Related Activities

Non-consumptive

In 1981, 3.6 million Canadians (19.4% of the total population**) participated in primary non-consumptive wildlife related trips. Canadians spent an estimated 56.8 million days engaged in such trips, averaging 15.8 days for each participant (Table 1). Reported activities during these trips included watching, photographing, studying, and feeding wildlife. Of these activities wildlife viewing was the most popular pastime with about 3.0 million participants, followed by photographing (1.4 million), studying (1.1 million), and feeding (1.0 million) wildlife.

Primary non-consumptive trips were also popular in Western Canada (Table 1). Participation rates among residents of Alberta, British Columbia and Saskatchewan closely followed the national average. The highest rate of participation (21.6%) was reported by British Columbians. Residents of these three western provinces spent, on average, a higher number of days on these trips than did Canadians. Statistics available for the United States indicate similar participation rates in wildlife-related recreational activities among Americans. In 1985, over 29.5 million Americans, aged 16 years and over (about 17.7% of the adult population) participated in primary non-consumptive wildlife-related trips for the purposes of viewing, photographing, and feeding wildlife (USFWS, 1987).

Consumptive

Approximately 1.8 million Canadians, (9.8% of the population), hunted for recreation in 1981 (Table 2) spending an estimated 32.2 million days engaged in this activity. The average time spent hunting by each participant was 17.9 days. Wildlife species that were hunted were divided into four game categories (waterfowl, other birds, small, and large mammals). About

---

** *The "total population" used in the CWS publications as the basis for calculation of percentages consisted of all Canadians aged 15 years and over.*

TABLE 1

PARTICIPATION RATES AND AVERAGE NUMBER OF DAYS SPENT PER PARTICIPANT ON PRIMARY NON-CONSUMPTIVE WILDLIFE RELATED TRIPS IN 1981

Residence of Participant	PARTICIPANTS No. (millions)	Percent of Population	Average No. of Days Per Participant
CANADA	3.6	19.4	15.8
Alberta	0.3	20.0	20.1
British Columbia	0.5	21.6	18.2
Saskatchewan	0.1	16.7	15.9
*U.S.A.	29.5	17.7	N/A**

* *Source: USFWS (1987)*

** *Not available*

TABLE 2

PARTICIPATION RATES AND TIME SPENT ON RECREATIONAL HUNTING BY CANADIANS, IN 1981

Hunting Activity	Number of Participants (millions)	Percent of Canadians	Total Number* of Days - All Participants (millions)	Average No. of Days Per Participant
All Types of Game	1.8	9.8	32.2	17.9
Waterfowl	0.7	3.6	7.5	11.5
Other Birds	1.0	5.3	10.9	11.0
Small Mammals	0.9	5.0	12.6	13.5
Large Mammals	0.9	5.1	10.2	10.9

Note: *the sum of reported hunting days for each category exceeds the total hunting days for all game indicating that more than one type of game was hunted during one trip.*

TABLE 3

PARTICIPATION RATES AND TIME SPENT HUNTING IN 1981, BY RESIDENCE

	Percent of Population Participating	No. of Participants (in millions)	Average No. of Days Per Participant
CANADA	9.8	1.8	17.9
Alberta	11.4	0.2	15.4
British Columbia	8.4	0.2	16.2
Saskatchewan	14.8	0.1	16.1
U.S.A.*	10.0	16.7	20.0

* *Source: U.S.F.W.S. (1987)*

3.6% of Canadians hunted waterfowl, the least popular game, and 5.3% hunted other birds, the most popular game. Canadians spent more time (12.6 million days in total, and an average of 13.5 days per participant) hunting small mammals than any other type of game.

Hunting participation rates among residents of Alberta and Saskatchewan were higher than the national average (Table 3). The rate in British Columbia was slightly lower, at 8.4%. Hunters residing in these three western provinces averaged fewer days hunting than did the average Canadian hunter. Participation rates according to game categories were not given at the provincial level. About 16.7 million adult Americans (10% of the adult population) participated in recreational hunting that year, spending a total of 335.1 million days actively hunting, for an average of 20 days/hunter (USFWS, 1987).

Economic Value of Wildlife-Related Activities

The economic value of wildlife-related recreation activities is comprised of both indirect and direct benefits.

> Indirect benefits are defined as: *the impacts on the national or provincial economy resulting from the expenditures of participants in wildlife-related recreational activities* (Filion et al, 1985).
> Direct benefits are defined as: *the annual economic value of the enjoyment received by participants in wildlife-related recreational activities. It is based on people's willingness to pay a sum of money, net of participation costs, to pursue the activities* (Filion et al, 1985).

Indirect Benefits

The indirect benefits associated with all types of wildlife-related recreational activities combined were calculated by Filion et al (1985), however, those associated solely with primary non-consumptive wildlife-related trips, or those associated solely with recreational hunting were not calculated and are therefore unavailable. The expenditures incurred as a result of participation in these two activities, a subset of indirect benefits, have been calculated.

Expenditures – Non-consumptive

In 1981, Canadians spent about $2.1 billion on primary non-consumptive wildlife-related trips (Table 4). The average yearly expenditure per participant was $589 or about $37 per trip-day. Using the entire Canadian population, aged 0 and over, (Statistics Canada, 1982) but excluding Yukon and Northwest Territories, this translates to a yearly, per capita expenditure of

TABLE 4

EXPENDITURES ON PRIMARY NON-CONSUMPTIVE WILDLIFE RELATED TRIPS BY CANADIANS, IN 1981 BY PROVINCE OF RESIDENCE

	Total Expenditures by all Participants (in millions)*	Average Expenditure Per Trip-Day Per Participant (in dollars)	Average Yearly Expenditure Per Participant (in dollars)	Per Capita** Expenditures (in dollars)
CANADA	2,111.4	37	589	87
Alberta	258.9	43	863	116
British Columbia	498.5	55	997	182
Saskatchewan	71.5	45	715	74

**Figures for the provinces were derived using previously rounded numbers.*
***Based on total population, aged 0+ over, of each province and of Canada, excluding Yukon and NWT.*

$87 dollars by Canadians on primary non-consumptive wildlife-related trips. Residents of Alberta, British Columbia and Saskatchewan exceeded the national average for both daily and yearly expenditures per participant. Yearly per capita expenditures also exceeded the national level in both Alberta and British Columbia, but not in Saskatchewan (Table 4).

Expenditures at the Canadian level were concentrated primarily on equipment. Of the $2.1 billion spent in 1981 on primary non-consumptive wild-life related trips, about 52.7% was used to purchase equipment (Table 5). This translates to per capita expenditures of $46. Transportation accounted for the next greatest expenditure (21%) at $18 per capita. Food, accommodation and other items made up the remaining 26.3% or $23 per capita. The distribution of expenditures at the provincial level was not available.

Expenditures – Consumptive

In 1981, Canadians spent about $1.2 billion hunting wildlife. The average yearly expenditure was $662 per hunter, and the average daily expenditure was $37 per hunter (Table 6). Hunters residing in British Columbia and Alberta recorded the highest yearly and average daily expenditures in the country. Annual per capita expenditures for these provinces also greatly exceeded per capita spending at the national level.

Of the four game categories, large mammal hunting accounted for most (39.8%) of the expenditures at the national level (Table 7). In 1981, the average large mammal hunter spent $504 on hunting. The average waterfowl hunter spent $351. Expenditures according to game categories were not available at the provincial level.

Of the $1.2 billion spent in Canada on hunting in 1981, 44.7% went to purchase equipment (Table 8). The cost of accommodation accounted for the smallest portion of the total expenses (3.9%). Expenditures in British Columbia and Alberta were distributed in a pattern similar to that at the national level, although a greater percentage of dollars was spent on equipment in Alberta (60.5%) and British Columbia (64.6%). Per capita expenditures on equipment, by residents of Alberta and British Columbia was $55 and $51 respectively, over twice the per capita figure for Canadians. In Saskatchewan, less money was spent on equipment (only 36.5%) and more on other items (19.0%), than at the national level.

Statistics available for American hunters suggest a similar situation in the United States. In 1985, Americans hunting for sport spent an average of $604 per hunter (USFWS 1987).

TABLE 5

DISTRIBUTION OF DOLLARS SPENT ON PRIMARY NON-CONSUMPTIVE WILDLIFE-RELATED TRIPS BY CANADIANS IN 1981

Expenditure Category	Dollars Spent (in millions)	Percent of Total Expenditures	Per Capita* Expenditures (in dollars)
TOTAL	2,111.4	100	87
Equipment	1,112.7	52.7	46
Transportation	443.4	21.0	18
Food	266.0	12.6	11
Accommodation	171.0	8.1	7
Other Items	118.2	5.6	5

**Based on total Canadian population aged years 0+ over, excluding Yukon and Northwest Territories.*

TABLE 6

AVERAGE DAILY AND YEARLY EXPENDITURES ON RECREATIONAL HUNTING IN 1981, BY PROVINCE OF RESIDENCE

	Average Yearly Expenditure (dollars) Per Participant	Average Daily Expenditure (dollars) Per Participant	Average Yearly Expenditure (dollars) Per Capita
CANADA	662	37	49
Alberta	1099	71	98
British Columbia	1245	77	91
Saskatchewan	508	32	52

**Calculated using figures that were previously rounded.*

TABLE 7

EXPENDITURES ON RECREATIONAL HUNTING BY RESIDENTS OF CANADA, ACCORDING TO TYPE OF GAME, IN 1981

Hunting Activity	Total Expenditures (in millions) By All Participants	Average Yearly Expenditure Per Participant ($)
All Types Of Game	1,192.6	662
Waterfowl	231.2	351
Other Birds	286.1	291
Small Mammals	200.7	216
Large Mammals	474.7	504
*U.S.A. (All Game)		607

* *Source: U.S.F.W.S. (1987)*

TABLE 8
PERCENTAGE DISTRIBUTION OF DOLLARS SPENT, AND PER CAPITA EXPENDITURES ON RECREATIONAL HUNTING IN 1981, BY PROVINCE OF RESIDENCE

	Total Expenditures	Equipment	Transportation	Food	Accommodation	Other Items
CANADA						
Total Expenditures (millions)	1,192.6	533.1	305.3	138.3	46.5	169.4
Percent of Total Expenditures	100	44.7	25.6	11.6	3.9	14.2
Expenditures Per Capita (dollars)	50	22	13	6	2	7
ALBERTA						
Total Expenditures (millions)	204.6	123.8	35.7	17.2	6.1	21.8
Percent of Total Expenses	100	60.5	17.4	8.4	3.0	10.7
Expenditures Per Capita	92	55	16	8	3	10
BRITISH COLUMBIA						
Total Expenditures (millions)	218.6	141.1	41.1	16.3	4.6	15.5
Percent of Total Expenditures	100	64.6	18.8	7.5	2.1	7.0
Expenditures Per Capita	80	51	15	6	2	6
SASKATCHEWAN						
Total Expenditures (millions)	54.0	19.7	14.6	6.4	3.0	10.3
Percent of Total Expenditures	100	36.5	27.0	11.9	5.6	19.0
Expenditures Per Capita (dollars)	52	19	14	6	3	10

Direct Benefits

In 1981, Canadians who participated in primary non-consumptive wildlife-related trips reported receiving direct benefits amounting to $361 million (Table 9). Those that hunted received direct benefits, totalling $418 million. Of the four game categories, Canadian hunters most highly valued large mammals, which accounted for 39% ($163.7 million) of the total benefits received from hunting.

Of the two activity types, residents of Alberta most highly valued recreational hunting at $60.1 million dollars, although primary non-consumptive trips were valued almost as much, at $53.8 million (Table 9). Large mammals accounted for 41% of the value reported for hunting. Residents of Alberta valued hunting more highly than the other two western provinces. British Columbians valued primary non-consumptive trips more highly than hunting and more highly than the other two western provinces. Large mammals were the most valued type of game, accounting for 59% of the total value derived from hunting. Residents of Saskatchewan valued recreational hunting almost twice as much as primary non-consumptive trips. Again, large mammals were the most valued game, accounting for 40% of the hunting value.

Capitalized Value

Another way to represent the value of wildlife to participants, is through the capitalized values of direct benefits. The capitalized value is defined as: amount of capital needed to generate, in perpetuity, an annual sum of money equivalent to the direct benefits received by participants in 1981, based on a return rate of 10%. It is a conservative estimate of the sum of money required to produce a yearly return sufficient to replace the direct benefits that would be lost if wildlife-related recreational activities were no longer available (Filion et al, 1985). The capitalized values of non-consumptive trips and recreational hunting amount to $7.8 billion for all Canadians (Table 10). Recreational hunting accounted for 54% of this total. In Alberta, recreational hunting accounted for 53% of the total capitalized value, and in Saskatchewan it accounted for 66%. In British Columbia primary non-consumptive wildlife related trips accounted for 55% of the capitalized value of wildlife-related recreational activities.

TABLE 9

ESTIMATED DIRECT BENEFITS RECEIVED BY PARTICIPANTS IN WILDLIFE-RELATED RECREATIONAL ACTIVITIES IN 1981, BY PROVINCE OF RESIDENCE

	TOTAL NET VALUE ($000,000)			
Activity	CANADA	Alberta	British Columbia	Saskatchewan
Non-consumptive	**361.0**	**53.8**	**68.9**	**14.7**
Recreational Hunting				
Large mammals	163.7	24.8	33.7	11.3
Small mammals	74.6	7.0	5.0	3.7
Waterfowl	89.6	14.9	6.4	8.0
Other birds	90.1	13.5	12.2	5.0
Total hunting	**418.0**	**60.1**	**57.4**	**28.0**
TOTAL	779.0	113.9	126.3	42.7

**Cell values may not total due to rounding.*

TABLE 10

CAPITALIZED VALUE OF DIRECT BENEFITS RECEIVED BY CANADIANS WHO PARTICIPATED IN WILDLIFE-RELATED RECREATIONAL ACTIVITIES IN 1981

	Primary Non-ConsumptiveTrips $000,000	Percent Of Total Value	Recreational Hunting $000,000	Percent Of Total Value	Total Value $000,000
CANADA	3600	46	4200	54	7800
Alberta	538	47	601	53	1139
British Columbia	689	55	574	45	1263
Saskatchewan	147	34	280	66	427

Summary of the Economics of Wildlife Tourism

In 1981, 19.4% of the Canadian population participated in primary non-consumptive wildlife-related trips, and 9.8% of Canadians hunted for recreation. Compared to participation rates at the national level, primary non-consumptive wildlife-related trips were more popular with residents of Alberta and British Columbia, and hunting was more popular with residents of Alberta and Saskatchewan.

Canadians spent about $2.1 billion on primary non-consumptive wildlife-related trips in 1981. This translates to $589 per participant or $87 spent for every Canadian. Most (52.7%) of the expenditures went toward purchasing equipment. Canadian hunters spent about $1.2 billion in total, or $662 per hunter. This translates to expenditures of $49 per capita for Canadians. Again, equipment accounted for the largest portion (45%) of the expenditures. Expenditures by residents of the three western provinces, on primary non-consumptive wildlife-related trips, far exceeded the national total and yearly average, as did expenditures by hunters residing in Alberta and British Columbia, but not those residing in Saskatchewan. In 1981, Canadians reported receiving direct benefits of $361 million from primary non-consumptive wildlife-related trips, and $418 million from recreational hunting.

Of the two activities, residents of Saskatchewan most highly valued hunting at $28.0 million, nearly twice the value reported for non-consumptive trips. Residents of British Columbia valued non-consumptive wildlife related trips at $68.9 million and hunting at $57.4 million. Residents of Alberta valued hunting at $60.1 million and primary non-consumptive wildlife-related trips at $53.8 million.

The capitalized value of the benefits received by Canadians in 1981, from hunting, amounted to $4.2 billion, slightly higher than the value received from non-consumptive trips ($3.5 billion).

Economics of Wildlife Tourism in Alberta

Resident Albertans, non-resident Canadians and non-resident aliens spend an estimated $860 million annually (1982 dollars) in Alberta, towards fishing, hunting and viewing wildlife (Fish and Wildlife Division, 1984). This estimate is considered to be conservative because expenditures by non-resident aliens who come to Alberta primarily to view wildlife are unknown, and therefore not included. Approximately $20 million of this annual total is accounted for by those non-resident aliens who come to Alberta to hunt or fish.

The average daily expenditure by Canadians in Alberta, was $43 for viewing wildlife, $72 for hunting, and $47 for fishing (1980 dollars). The indirect benefits to Alberta, associated with these expenditures, generated $1.05 billion of economic activity and created 33,730 full-time jobs (man years). About 70% of these jobs were created in the retail sector, 20% in transportation, and 10% in accommodation and food services (Fish and Wildlife Divison, 1984).

Similar information concerning expenditures by resident Albertans, on primary non-consumptive trips, while in Alberta, is not available. Although participation rates and total expenditures by residents of Alberta were given earlier, information concerning the location of these activities is not available, therefore, there is no way of knowing the proportion of these expenditures that was spent within Alberta. Several economic analyses have been conducted regarding the value of recreational hunting in Alberta. In 1984 there were 132,110 active resident and non-resident hunters in Alberta (Table 11) (Prism Environmental Consulting Services et al, 1988), however recreational hunting appears to be declining in popularity. While participation rates among hunters pursuing big game and upland birds has remained fairly constant, participation in waterfowl hunting has decreased significantly in terms of the number of active hunters.

In 1984, 4.2% of all the hunters in Alberta were non-residents (Table 12). Non-resident hunters spent an estimated 38,000 hunter days in the province, or 4.5% of the total hunter days. The highest representation of non-resident hunters was recorded among big game hunters (4.5%).

The experience of hunting in Alberta, is of considerable value to both residents and non-residents (Table 13). Again, the value of recreational hunting it comprised of direct and indirect benefits. The direct benefits received by residents and non-resident hunters combined, is equal to $326.30 per hunter per season, and $50.93 per hunter per day. Big game hunting was the most highly valued category of game among all hunters. Direct benefits received per non-resident hunter, amounted to $641.33 per season or $94.17 per day, approximately twice the values

TABLE 11

WILDLIFE CERTIFICATE HOLDERS AND ESTIMATED NUMBER OF ACTIVE HUNTERS, ALBERTA

	1975		*1976*		*1984*	
	No.	%[2]	No.	%[2]	No.	%[2]
Certificate Holders						
Alberta Resident	116,203	93.4	127,506	93.2	143,298	96.2
Non-Resident	5,565	4.5	5,899	4.3	3,304	2.2
Non-Resident Alien	2,597	2.1	3,372	2.4	2,284	1.5
All Non-Resident	8,162	6.6	9,271	6.8	5,588	3.7
All Holders	124,365	100.0	136,777	100.00	148,886	100.0
Active Hunters						
Alberta Resident	106,600	92.6	112,590	92.4	126,530	95.8
Non-Resident	8,100	7.4	9,270	7.6	5,580	4.2
All Hunters	110,700	100.0	121,860	100.0	132,110	100.0
Big Game Hunters	64,570	58.3	73,120	60.0	85,870	65.0
Waterfowl Hunters	66,790	60.3	73,480	60.3	39,250	29.7
Upland Bird Hunters	35,440	32.0	42,650	35.0	45,730	34.6
Total Hunters[1]	110,700		121,860		132,110	

1 Many hunters are included in more than one species group hunter category, hence the total hunters figure is less than the sum of hunters by species group.

2 Albertans 15 years and over.

Sources: Boxall and Smith, 1986; Phillips et al, 1977 and unpublished results from a 1983 game bird survey from Alberta Fish and Wildlife Division.

TABLE 12

ESTIMATED PARTICIPATION RATES OF RESIDENT & NON-RESIDENT HUNTERS IN ALBERTA IN 1984

Hunter Group	Hunter Type	Estimated # of Hunters	% of Total Hunters	Estimated # of Hunter Days	% of Total	Estimated # of Days per Hunter
Big Game						
	Resident	81,450		451,850		—
	Non-Resident	4,420	5.1	23,780	5.0	—
	All	85,870		475,630		5.54
Waterfowl						
	Resident	37,540		169,200		—
	Non-Resident	1,710	4.4	7,425	4.2	—
	All	39,250		176,625		4.50
Upland Bird						
	Resident	44,060		187,100		—
	Non-Resident	1,670	3.7	6,795	3.5	—
	All	45,730		193,895		4.24
All Groups						
	Resident	126,530		808,150		—
	Non-Resident	5,580	4.2	38,000	4.5	—
	All	132,110		846,150		6.40

TABLE 13

DIRECT BENEFITS RECEIVED FROM RECREATIONAL HUNTING IN ALBERTA, PER HUNTER PER SEASON AND PER DAY, 1986 DOLLARS

Species Group	Hunter Type	Per Hunter Per Season	Per Hunter Per Day
Big Game			
	Resident	285.81	51.52
	Non-Resident	654.65	121.68
	All Hunters	304.80	55.03
Waterfowl			
	Resident	216.93	48.13
	Non-Resident	114.46	26.36
	All Hunters	212.47	47.21
Upland Bird			
	Resident	184.00	43.33
	Non-Resident	293.00	72.01
	All Hunters	187.98	44.34
All Groups			
	Resident	312.41	48.90
	Non-Resident	641.33	94.17
	All Hunters	326.30	50.93

calculated per resident hunter. Non-resident hunters most highly valued big game hunting in Alberta (Table 13). At $654.65 per season, this value is more than five times that assigned to waterfowl hunting and more than twice that stated for upland birds. Although resident hunters also valued big game hunting the most, the disparity between the values reported for each game category was much less pronounced (Table 13).

Indirect benefits received by hunters were not available, however expenditures, a subset of indirect benefits, incurred by active resident and non-resident hunters while in Alberta, were available (Table 14). Resident hunters spend, on average, $470.14 during one hunting season, whereas the averaage non-resident hunter spends $1054.39 in Alberta, during one hunting season. Travel is by far the greatest expense for resident hunters, accounting for 38% of the expenses. For non-resident hunters guiding fees account for most (30%) of the expenses, followed by travel at 21%.

Prism Environmental Consulting Services et al (1988) evaluated the impact that losses in wildlife populations would have on the net benefits associated with wildlife recreation, in Alberta. In the case of hunting, net benefit changes would be approximately proportional to changes in wildlife populations because hunting is managed commensurate with harvestable wildlife numbers. In the case of non-consumptive wildlife recreation (here including all types, not just primary non-consumptive trips) they estimated that a 10% reduction in wildlife populations would lead to a 3.5% reduction in non-consumptive user activity and hence net benefits.

The following example, taken from Phillips and Pattison (1970) illustrates the contribution that recreational hunting by residents and non-residents can make to Alberta's tourism industry, both at the provincial and regional level. It also illustrates the potential role that advertising can play in promoting recreational hunting in Alberta.

During the late 1960's a significant change occurred in moose hunting activity in Alberta's Big Game Zone 1. Zone 1, located in Northern Alberta (Figure 1) comprises 45% of the total area of Alberta, a significant proportion of the wilderness area available to hunters. In 1967 a new Fish and Wildlife program permitted non-resident hunters to take a moose of either sex in Zone 1. The required license fee for non-residents was $25.00 and a licensed guide was not required if hunters were unable to obtain one. The new program was advertised in the Pacific Northwest (U.S.A.) and nearly 10,000 Americans purchased Zone 1 special moose licenses that year. In 1968 several changes occurred: a guide became compulsory for non-resident Zone moose hunters; the license fee was increased to $50; and no advertising took place. Despite these

TABLE 14

EXPENDITURES BY RESIDENT HUNTERS IN ALBERTA, 1975-76 SEASON, AND BY NON-RESIDENT HUNTERS IN ALBERTA, 1976-77 SEASON, 1986 DOLLARS

Cost Item	Trip Expenditures* Per Resident Hunter Per Season		Trip Expenditures** Per Non-Resident Hunter Per Season	
Travel	178.92	(38.1)***	219.91	(20.9)
Lodging	30.27	(6.4)	96.87	(9.2)
Food	95.04	(20.2)	153.74	(14.6)
Beverages	30.04	(6.4)	58.12	(5.5)
Guides	3.20	(0.7)	314.67	(29.8)
Hunting Services	17.76	(3.8)	18.44	(1.8)
License Fees	30.38	(6.5)	130.64	(12.4)
Ammunition	61.39	(13.1)	29.00	(2.8)
Rentals	7.43	(1.6)	15.27	(1.5)
Miscellaneous	15.71	(3.3)	17.73	(1.7)
Total Hunting Costs	**470.14**		**1,054.39**	

* *Source: Phillips et al, 1977*

** *Source: Phillips and McElhaney, 1977*

*** *Percent of total expenditures in brackets*

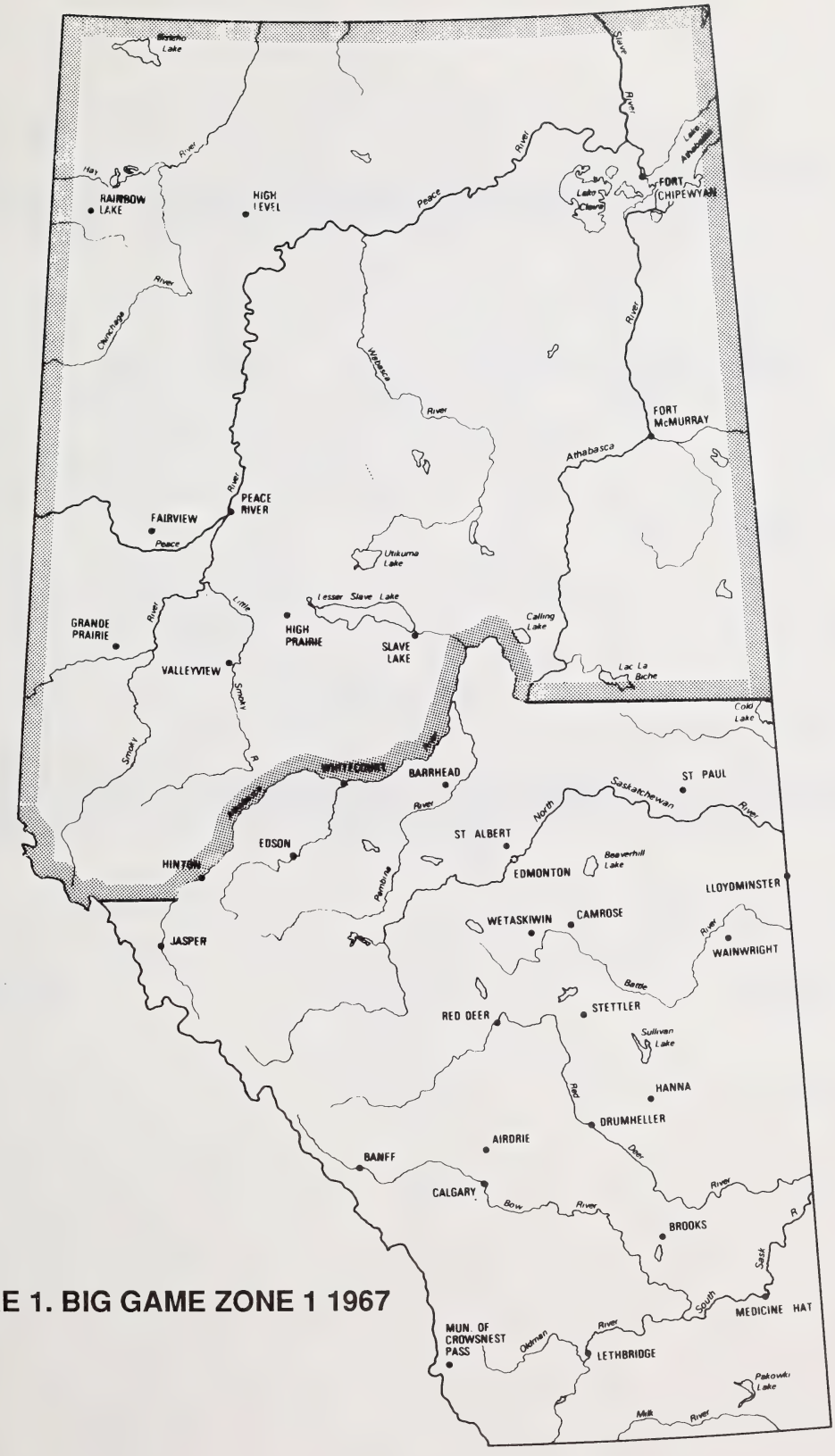


FIGURE 1. BIG GAME ZONE 1 1967

changes, during the 1968 season, over 4,300 Americans hunted in Zone 1. In total, 25,813 Alberta residents and non-residents actively hunted moose in Zone 1 during the 1968 season.

Phillips and Pattison (1970) estimated the value (direct plus indirect benefits), in 1968 dollars of the hunting experiences of all Zone 1 moose hunters (Table 15). The average direct benefits received per non-resident hunter amounted to $58.03. The average direct benefits received per resident hunter was estimated to be $23.18. Indirect benefits were defined by Phillips and Pattison (1970) as equal to expenditures. The average non-resident hunter spent $235.42 on Zone 1 moose hunting, nearly twice the amount spent by residents. The total value of the hunting experience per non-resident hunter was $293.45 and $79.53 per resident hunter. During 1968 non-resident Zone 1 moose hunters spent slightly more than $1 million in Alberta. Expenditures in Northern Alberta by non-resident and non-local Zone 1 moose hunters amounted to approximately $1.45 million

Through a detailed cost/benefit analysis Phillips and Pattison (1970) then estimated the net economic contribution of Zone 1 moose hunting on both a provincial and regional level (Table 16). All costs and benefits specific to each level were calculated, and separate net economic contributions were determined. In 1968, Zone 1 moose hunting resulted in a net economic contribution of $1,457,208 to the province of Alberta. This translates to $168.83 per moose killed, or $56.45 per hunter accommodated The net economic contribution for Northern Albertans was similar, at $1,483,487, or $171.36 per moose killed. This translates to $57.46 per hunter accommodated.

This example indicates that non-resident hunting can contribute significantly to Alberta's economy at both the regional level. Contributions at the regional level are particularly important as they can occur in areas of the province that may not be popular destinations for other sectors of the tourism market.

TABLE 15

TOTAL BENEFITS RECEIVED BY RESIDENT AND NON-RESIDENT ZONE 1 MOOSE HUNTERS IN 1968, 1968 DOLLARS.

	Value To All Active Hunters ($000,000)	Value Per Active Hunter ($)	Value To All Non-Resident Hunters ($000,000)	Value Per Non-Resident Hunters ($)	Value To All Resident Hunters ($000,000)	Value Per Resident Hunter ($)
Direct Benefits	0.75	29.06	0.25	58.03	0.50	23.18
Indirect Benefits	2.23	86.39	1.01	235.42	1.21	56.35
Total Benefits	2.98	115.45	1.26	293.45	1.71	79.53

TABLE 16

NET ECONOMIC CONTRIBUTION OF BIG GAME ZONE 1 MOOSE RESOURCE, IN 1968, TO ALBERTA AND NORTHERN ALBERTA, 1968 DOLLARS

Net Economic Contribution	Province of Alberta ($)	Northern Alberta ($)
Total	1,457,208	1,483,487
Per Moose Killed	168.83	171.36
Per Hunter	56.45	57.46

The Demography of Wildlife Tourism

The sociology of tourism is poorly understood (R. Butler, 1986). This has major implications for the promotion and marketing of wildlife tourism as an economic activity. If the sociology is poorly understood then the meager demographic data we have only apply to the current crop of participants. To some degree it is a supply/demand phenomenon that has evolved by itself without significant management.

In addition to the current demographic profiles of wildlife tourists, we also have major trends occurring in demographic changes that allow us to speculate at least to the foreseeable future. We take the liberty to speculate.

Filion et al (1983) have developed demographic profiles for participants in wildlife-related activities (Table 17). These profiles should be used in conjunction with the profile given outlining the salient demographic characteristics of the Canadian population in 1981 (Table 17). By comparing participant profiles to a profile of the general populace it is possible to determine the degree to which participants differ from a cross-section of Canadian society.

Non-consumptive

In 1981, primary non-consumptive wildlife-related trips were slightly more popular among males than females (Table 17). Canadians between the ages of 25 and 34 years represented 27.9% of participants, a disproportionately high percentage. As in Canadian society, most (70.9%) of the participants were urban residents and possessed a secondary school education (50.6%), however, participants with at least some post-secondary education were disproportionately represented at 33.6%.

Non-consumptive wildlife participants comprise a large and diverse group whose members participate in various activities, that involve such diverse subjects as ungulates, reptiles and birds (Lyons, 1982). Although bird watching is only one such activity, it is currently enjoying unparalleled popularity in North America (Butler & Fenton, 1987). According to one survey, 22% of North Americans might be considered to be birdwatchers (Butler, 1984). Participants are therefore deserving of a closer look.

The following statistics are taken from a detailed demographic profile of 1,005 birdwatchers who visited Point Pelee National Park, Ontario in spring of 1985 (Butler and Fenton, 1987). Point Pelee is an international destination for birdwatchers. Of the birdwatchers interviewed, 47% were from the United States, 48% were from Canada and 5% were from other countries, primarily the

TABLE 17

PROFILE OF CANADIAN PARTICIPANTS IN WILDLIFE-RELATED ACTIVITIES IN 1981*

Demographic Characteristic	Profile of the Canadian Population 1981**	Profile of the Participants in Primary Non-Consumptive Trips	Profile of Active Recreational Hunters
SEX			
Male	49.0	52.4	90.0
Female	51.0	47.6	10.0
AGE			
15-19	11.9	12.8	16.4
20-24	12.6	14.4	16.4
25-34	22.4	27.9	26.6
35-44	16.2	16.8	18.1
45-54	13.2	10.6	11.5
55-64	11.6	9.0	6.4
65+	12.2	8.5	4.5
EDUCATION			
0-8 yrs	20.5	15.7	20.4
Secondary	51.0	50.6	57.9
Some Post-Secondary	8.7	10.4	6.9
Post-Secondary Diploma	10.6	12.4	9.2
University	9.2	10.8	5.6
RESIDENCE			
Urban	70.5	70.9	49.9
Rural	29.5	29.1	50.1

**Includes all Canadians aged 15 years and over.*

---

* *Source: Filion et al, (1983)*

** *Includes all Canadians aged 15 years and over*

United Kingdom, Germany and Holland, (accounting for 58% of the overseas visits). Most (53%) of the birdwatchers were male, and the majority (69.4%) claimed to have urban backgrounds. Point Pelee birdwatchers are a highly educated group. About 60% held a bachelors degree or better, compared to about 9% of the general public in Canada, and 14% in the United States. Approximately 16% of birdwatchers interviewed held a doctorate degree, and a majority (50%) held jobs that are classified by the United States General Social Survey Occupational Classification System as professionals. Of those interviewed, 60% were members of a bird club.

Consumptive

Canadians who hunted in 1981 comprised a market that differs significantly from the Canadian population in several ways. Most (90%) of the hunters were male, and rural residents were disproportionately represented at 50%. Canadians between 15 and 34 years of age comprised 59.4% of hunters in 1981 whereas only 46.9% of the Canadian population fell into that age range. Only 5.6% of Canadian hunters had a university degree, where 9.2% of all Canadians hold such a degree.

Phillips and McElhaney (1977) compiled a demographic profile of non-resident hunters visiting Alberta during the 1976-77 hunting season. Of the 8,368 non-resident license holders that season, 60% resided in Canada (notably British Columbia), about 38% resided in the United States (notably Washington, Minnesota, Montana, Oregon and California), and the remaining 2% were from other countries (notably West Germany). This is in contrast to profiles from the late 1960's. For example, during the 1968-69 and the 1969-70 seasons approximately 40% of non-resident hunters were Canadians and 60% were Americans (Phillips & McElhaney, 1977). During the 1976-77 season, 98% of non-resident hunters were male. The average non-resident hunter was 44.2 years of age and possessed 13 years of formal education. Professional and technical occupations accounted for 18.4% of non-resident hunters, retired persons accounted for 13.8% and tradesman 11.9%.

Adamowicz (1983) compared the socioeconomic characteristics of active non-resident hunters to active resident Alberta hunters. He summarized by stating that non-resident hunters are generally older than resident hunters, have higher incomes, more education and are more experienced hunters. While non-resident hunters are primarily professionals, most (40-50%) resident hunters are tradesmen or laborers. Like resident hunters, most non-resident hunters are from rural areas or small towns.

As a comparison, demographic profiles are also available for United States residents who participated in wildlife-related activities. Of the 29 million adults who participated in primary non-consumptive trips in 1980, 52% were males, and 58% were less than 35 years of age (Lyons 1982). Of the over 47 million adults who hunted and fished in 1985, 69% were males, 64% were between the ages of 18 and 44 years and 75% had at least a highschool education. Most (55%) of the hunters resided in rural areas (USFWS, 1987).

It appears that participants in the two types of activity are by no means exclusive to either activity group. In 1980, 42% of those Americans who took primary non-consumptive wildlife related trips also hunted and/or fished that year, and 26% of all the sportsmen also reported participating in non-consumptive activities (Lyons, 1982). Similar statistics concerning Canadians were not available.

Attitudes Toward Wildlife and Wildlife-Related Activities

The 1982 Statistics Canada Survey also included questions regarding Canadians' attitudes toward wildlife conservation, and their level of interest in participating in wildlife-related activities. Most Canadians (80%) reported that they felt that it was very or fairly important to maintain abundant wildlife (Table 18), and 82.0% felt that it was very or fairly important to preserve endangered species. Canadians also reported a high level of interest in participating in wildlife-related activities. Approximately 82.8% of Canadians expressed some, or great interest, in participating in non-consumptive activities (these included both residential activities and primary non-consumptive trips). This is not surprising given that 66.8% of the population reported actually participating in residential activities alone.

About 26.9% of Canadians reported some or great interest in participating in consumptive wildlife-related activities. This is significantly higher than the 9.8% of the population that actually participated in recreational hunting in 1981, suggesting that there is a potential market for this activity. In 1981, 32.1% of the Canadian population reported having had some hunting experience at some time during their lives. It is not known whether those who responded as interested in participating were also the experienced hunters who did not participate that year, but these figures support the existence of an interested market beyond that which actively participated in 1981.

Attitudes toward wildlife and interest in activity participation, by residents of Alberta, British Columbia and Saskatchewan were very similar to those held at the national level (Table 18). With the exception of interest in hunting in British Columbia, Western Canadians consistently showed slightly stronger support for wildlife and wildlife-related activities than did Canadians as a whole.

Incidental Wildlife Encounters During Other Outings Or Trips

Although participants in this category of wildlife-related activities were not directly intent on interacting with wildlife, the level of interest shown by these people, and the incidental expenditures incurred by them, suggests that they are a potential market for wildlife-related tourism. For example, in 1981, approximately 8.1 millions Canadians (43.9% of the population) encountered wildlife incidentally while taking trips for business or pleasure. Approximately 85 million extra dollars, averaging $10 per participant, was spent during these trips as a direct result

TABLE 18

ATTITUDES OF CANADIANS TOWARD WILDLIFE AND WILDLIFE-RELATED RECREATIONAL ACTIVITIES IN 1981.*

Response Measured	CANADA	Alberta	British Columbia	Saskatchewan
Maintaining Abundance of Wildlife is Very or Fairly Important	80.0	86.9	88.4	82.8
Preserving Endangered Species is Very or Fairly Important	82.0	88.4	89.1	84.0
Great or Some Interest in Participating in Non-consumptive Activities	82.7	86.5	87.0	84.7
Great or Some Interest in Participating in Consumptive Activities	26.8	29.7	24.1	33.8

* *Expressed as percentage of population in Canada or province of residence.*

of the encounters with wildlife. About 92.5% of participants reported a significant increase in the level of enjoyment experienced during these trips, also as a direct result of the wildlife encounter.

Residents of British Columbia and Saskatchewan recorded participation rates higher than the national rate (53.4 and 45.2%, of the population respectively), and Albertans recorded the highest provincial participation rate in the country (56.9%). Participants in this category tended to be males (50.8%) and possessed an education beyond secondary school (37.2%).

Wildlife Tourism Opportunities in Alberta

Alberta's rich and diverse fauna are a product of the variety of habitat that occurs within the Province. No other province in Canada contains short-grass prairie and high alpine habitats. Only one other province contains short-grass prairie and Canadian shield habitats.

In addition to its diversity of terrestrial and aquatic habitats, Alberta sits astride the largest migratory waterfowl flyway in North America. As a consequence, the Peace-Athabasca Delta is known as a world class waterfowl production and staging area, while Beaverhill Lake is one of the most prominent staging areas for waterfowl and shorebirds.

The tremendous faunal diversity in Alberta is perhaps best illustrated by an examination of provincial museum records. Alberta hosts 90 species of mammals and 352 species of birds, while British Columbia records 140 species of mammals and 441 species of birds, and Saskatchewan 99 species of mammals and 333 species of birds.

There is already a wealth of published and unpublished material on wildlife tourism opportunities in Alberta. Such books as *Natural History of Alberta, A Nature Guide to Alberta, Birds of Alberta, Mammals of Alberta, A Bird-Finding Guide to Canada, Parks in Alberta*, etc. provide reasonably comprehensive information on available opportunities. We do not intend here to collate all the available material in detail but rather focus on the opportunities where species or populations can be the central activity in a non-consumptive and consumptive mode and then examine areas where wildlife is an important adjunct to an outing.

To reduce the available information into a meaningful context we have established some screening criteria that would allow us to highlight the more outstanding wildlife opportunities for the non-consumptive cohort of the population. For example, although Elk Island National Park is home to the largest terrestrial mammal (wood bison) and the smallest (pygmy shrew), it is highly unlikely that any significant numbers of people will go to observe the pygmy shrews. These screening criteria are:

1. Species or population must be reasonably ***predictable*** in its activity or location.
2. Species or population must be reasonably ***approachable***.
3. Species or population must be readily ***viewable*** (i.e occupy open habitats as opposed to dense forest cover, topographical predictability).
4. Species or population should be reasonably ***tolerant*** of human intrusion at certain times of the year.

5. Species or populations that are ***currently viewing attractions*** in other areas.

6. Species or populations which contain an element of ***rarity*** or ***local super abundance*** (i.e. Peregrine Falcon vs. waterfowl staging).

7. Species or population must be ***diurnal*** in its activity.

In addition to the above, we examine the opportunities from international, national and provincial calibre experiences.

Non-Consumptive Opportunities

Bison

Alberta contains part of the world's largest free-ranging bison herd at Wood Buffalo National Park. This is the only area in the world where you can observe bison without seeing fences. At Elk Island National Park both the plains and wood bison can be observed in large numbers. By contrast, the National Bison Range in Montana contains only 300 plains bison and still draws 125,000 visitors each year.

Pelicans

The worlds most northerly White Pelican colony is located immediately south of Fort Smith on the Slave River. Cold Lake and Grande Centre are access and accommodation sites to the worlds largest White Pelican colony on Primrose Lake.

Trumpeter Swans

The area north of Grande Prairie harbors the largest population of breeding Trumpeter Swans nearest the contiguous United States.

Sage Grouse

Alberta and Saskatchewan have the only Sage Grouse populations in Canada. Their spectacular courtship ritual is a rite of spring in southern Alberta.

Pronghorn Antelope

Alberta and Saskatchewan are the only provinces in Canada with pronghorn antelope populations. The largest winter concentration of antelope in Canada (up to 1,000) sits astride Highway #1 at Walsh, Alberta.

Bighorn Sheep

The most accessible and viewable bighorn sheep populations in Canada persist in Alberta's east slopes and mountain national parks.

Grizzly Bear

Alberta and British Columbia are the only provinces in Canada with resident grizzly bear populations.

Beaverhill Lake

Beaverhill Lake located adjacent to Edmonton is a world class waterfowl staging area and popular bird watching location yet draws visitor numbers in the order of a few thousand per year. Horicon Marsh in Wisconsin with a less spectacular migration of waterfowl has over 500,000 visitors per year (Table 19).

Peregrine Falcon

Edmonton and Calgary are two of the few cities in North America with an urban nesting population of the endangered Peregrine Falcon.

Cypress Hills

This unglaciated area contains an insular population of moose and elk and an abundance of both species of deer.

Peace River

In addition to its scenic values, a float trip down the Peace River will predictably result in the observation of a wide array of boreal wildlife including black bear, moose, deer and a wide variety of waterfowl.

Cold Lake

One of the largest Western Grebe colonies in Alberta lies adjacent to Cold Lake Provincial Park. White Pelicans regularly forage on the lake while the Martineau River represents a major migration and staging area for Bald Eagles. Passerines, (warblers and sparrows) migrate in large numbers along the western edge of the lake.

The review of wildlife-related tourism opportunities points to at least seven areas of the province where wildlife can either be a separate opportunity or an integral part of a broader nature experience (Figure 2). Some of their more notable features are briefly described.

TABLE 19

A COMPARISON OF VISITATION RATES AND WILDLIFE RESOURCES IN SEVERAL AREAS

	Beaverhill Lake	Point Pelee	Horican Marsh	Waterton National Park	National Bison Range	Elk Island National Park
Visitors Per Year	2,000**	60,000-80,000 in spring	500,000+	590,497*	125,000	338,323+*
Bird Spp.	250+	360+	200+	228+	187	200+
Large Ungulates & Large Carnivores	3	2	2	10	6	5

**Figures given are averaged over the years 1984-1987.*
***Estimated*

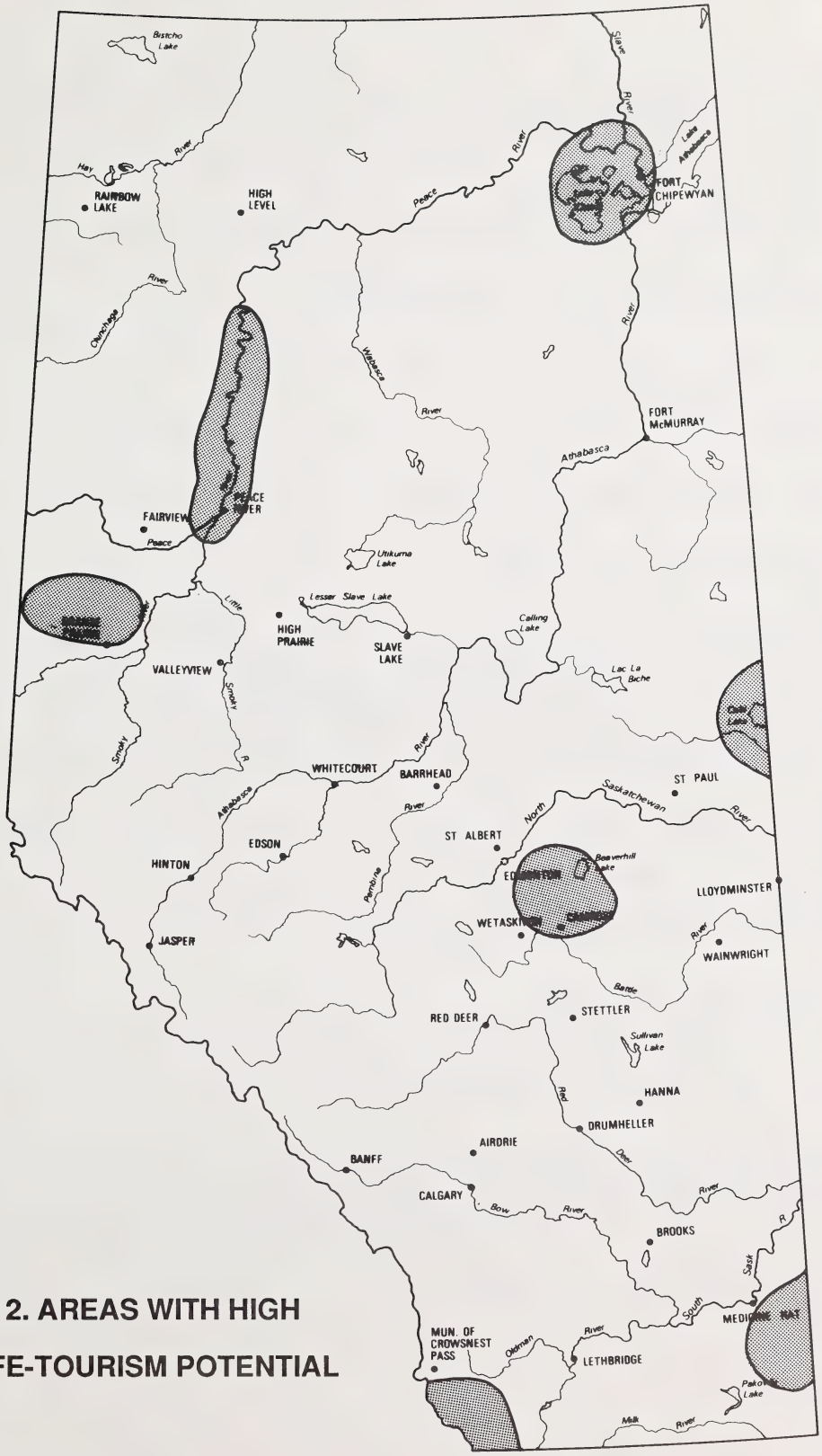


FIGURE 2. AREAS WITH HIGH WILDLIFE-TOURISM POTENTIAL

Cypress Hills/Walsh Flats

- on and adjacent to Highway #1
- over 200 species of birds
- interesting historical and geological features
- large populations of elk, deer and some moose
- large wintering population of antelope along Hiway #1

Waterton Lakes National Park

- over 220 species of birds
- large numbers of migratory waterfowl
- 10 species of large mammals
- large wintering herd of elk

Beaverhill Lake/Elk Island Park/Blackfoot

- offers a wide range of wildlife opportunities
- over 250 species of birds
- both species of bison
- large number of elk and moose
- on and adjacent to Highway #16 and #14

Grande Prairie/Saskatoon Lake

- on and adjacent to Highway #2
- migrating and nesting Trumpeter Swans

Peace River

- wildlife opportunities combined with scenic river trips
- boreal species such as moose, mule deer, black bear
- migrating and nesting waterfowl

Cold Lake

- variety of colonial nesting species such as Western Grebe, Pelicans, Cormorants
- notable passerine migration along western shore
- Bald Eagle migration along Martineau

Ft. Chipewyan

- wilderness experience
- free ranging bison
- waterfowl migration and nesting
- Peace-Athabasca delta

Consumptive Opportunities

Participation rates in hunting activity are declining in North America in large measure because of continued urbanization and declining opportunity. Alberta shows the same trend. Our preliminary review suggests two major areas where increased non-resident hunting could be accommodated by virtue of exploitable numbers and lack of demand by resident hunters.

1. Alberta supports a black bear population of approximately 50,000 and an annual harvest of only 5,000. These populations persist in fringe agricultural areas where an increased harvest is welcome and in remote areas where there is little or no conflict with resident hunters. The origin of current non-resident black bear hunters suggests that central Europe may be an appropriate target for promotion.

2. Goose numbers continue to increase in Alberta with notably low exploitation rates on white geese. Historical patterns of non-resident waterfowl hunting and declining opportunity suggest the United States will continue to be the largest market.

With the exception of perhaps elk and bighorn sheep virtually every species or species group can accommodate enhanced non-resident participation. This can only be facilitated with an allocation policy that encourages non-resident participation.

Wildlife And Tourism In Other Jurisdictions

The following examination of how other jurisdictions are integrating wildlife into their tourism strategy is intended to provide information and insight that is germaine to developing an implementation strategy for Alberta.

The national parks, although part of Alberta, effectively represent another jurisdiction by virtue of management authority, and, because they contain very different resource features, provide insight into how these features are being used to enhance the tourism experience.

Banff National Park

Although Banff National Park is well known for its scenic attractions, most visitors to the park are also interested in wildlife and want to know about wildlife viewing opportunities. These people comprise the second or third largest interest group visiting the park (Harding, pers. comm.). Banff, by far the most popular park in Alberta, attracts over 3,000,000 visitors a year (Table 20), and is Canada's most popular international destination. Although figures regarding visitor residence are not available, it is known that Japanese and German visitors comprise a significant and growing portion of Banff's tourism market. It is also known that visitors from these two nations are particularly interested in viewing wildlife, especially bears and ungulates. Since the number of Japanese and German visitors is increasing, we can predict that in the future, wildlife viewing will become increasingly popular in the park (Harding, pers. comm).

Wildlife viewing is actively promoted within the park, and information is disseminated through several forums. Each summer the park publishes a newsletter, *The Mountain Guide,* that informs people about park attractions, points of interest and areas where wildlife is likely to be visible. Current, (daily) information concerning the location of wildlife sightings in the park is posted at the interpretive centre, and a checklist of the bird species found in Banff and Jasper National Parks is also available at the center. Videos highlighting the park's wildlife resources are broadcast on cable television in the townsite and in Canmore.

There are many wildlife interpretive programs offered in the park. Most of these programs are not actively promoted outside of park boundaries because participation rates are currently satisfactory (Harding, pers. comm.). Summer programs include a mobile exhibit trailer that travels along the Icefield Highway, stopping in areas where mountain goats have been observed. Signs are then set out along the road, advertising the exhibit and inviting people to stop and observe the mountain goats using the spotting scopes that are available. An estimated 150 people visit this exhibit each hour, or 5,000 people/year (Harding, pers. comm.).

The park also organizes *"wildlife safaris"*. Three to four times per summer interpreters organize a car caravan whose primary purpose is to look for wildlife viewing opportunities. This type of exhibit poses potential management problems and staff must attempt to minimize the animals' exposure at close range to large groups of people (Harding, pers. comm.).

Birdwatching programs are also available in the park. There is a permanent waterfowl viewing blind established at Cayman Basin Marsh which attracts approximately 50,000 to 75,000 visitors per year. In the summer there are twice weekly guided birdwatching walks to Vermilion Lake, which attract approximately 20 people/tour, or 400 people/year.

The Buffalo Paddock, where seven to ten wood bison are housed, is also a popular exhibit. This display is geared toward *convenient* viewing; the bison are visible from a loop road that encircles the paddock. It is estimated that 160,000 people visit the paddock each year. About 75% of the visitors are thought to be non-Albertans, and approximately 50% of the vehicles that visit are charter buses (Harding, pers. comm.).

In mid-August to mid-September, bugling elk are commonly visible in open grassland areas of the park. Although this is a local attraction, it does not, at present, attract large numbers of visitors (Harding, pers. comm.).

Occasionally, in late summer and early fall, as a special event, wolf howling programs are held at night in some of the campgrounds. During these sessions park staff attempt to elicit howls from local wolf populations. Although these attempts are not always successful, there is generally much interest in the program (Harding, pers. comm.).

There are fewer winter programs in the park. Although visitation rates are high during winter months (Table 20 most winter visitors are skiing during the day. Interpretive track identification walks and exhibits are conducted, but these are primarily for school groups. Cold winter temperatures contribute to low participation rates for winter events (Harding, pers. comm.).

Recently the park has been discouraging wildlife viewing from the Trans-Canada Highway, by erecting fences and warning signs, in an attempt to reduce the number of vehicular accidents and protect the animals from people. To compensate for this, designated wildlife viewing areas, with interpretive information, have been established along the Bow Valley Parkway, and visitors are encouraged to use these designated stopping areas.

There are also two or three licensed guiding companies currently operating in the park. These companies work in close communication with park staff and offer wildlife and naturalist tours to the general public (Harding, pers. comm.).

TABLE 20
VISITATION RATES PER SEASON* FOR NATIONAL PARKS LOCATED IN ALBERTA

National Park	1984-1985	1985-1986	1986-1987
Jasper			
Spring	125,791	138,904	155,605
Summer	973,061	949,231	1,121,968
Autumn	293,237	248,031	297,154
Winter	468,208	450,056	446,857
TOTAL	1,860,297	1,786,222	2,021,584
Banff			
Spring	260,258	256,559	259,277
Summer	1,494,884	1,549,405	1,559,858
Autumn	461,714	453,399	503,869
Winter	984,154	1,031,613	1,077,935
TOTAL	3,201,010	3,290,976	3,400,939
Waterton			
Spring	46,640	47,827	49,348
Summer	391,991	393,092	368,192
Autumn	93,855	622,274	64,035
Winter	98,793	77,641	77,803
TOTAL	631,279	580,834	559,378
Elk Island**			
Spring	37,446	33,875	38,103
Summer	158,618	140,988	127,182
Autumn	62,697	53,446	57,840
Winter	103,033	95,388	106,354
TOTAL	361,794	323,697	329,479

**Visitor seasons are as follows:*
Spring – May
Summer – June, July & August
Autumn – September & October
Winter – November through April, inclusive

***Considered to be a very conservative estimate as the park gates are not always staffed.*

Source:
Traffic and attendance figures provided by Parks Canada.

Jasper National Park

Wildlife viewing is also of primary interest to many of the visitors to Jasper National Park and park staff and town residents are currently attempting to take advantage of this interest by actively promoting Jasper's wildlife resources. The local coop association, Parks and People Jasper, has just published a birding guide to Jasper National Park, in response to the high interest shown in birding at the information centre (Van Tighum, pers. comm.). They are currently trying to promote Jasper as a major birdwatching centre in North America. Based on the high interest shown at the park information centre they have identified Americans as a significant potential birdwatching market. A similar guidebook for mammals in the park is currently under production.

Jasper is also known as a world class location for wildlife photography. In September, rutting elk are visible in the open grasslands in the park and in November, bighorn sheep are visible rutting close to the highway in the Athabasca Valley. Opportunities such as these have, for the last five to six years, attracted professional photographers from all over the world, and in particular from the U.S.A. and British Columbia. (Van Tighum, pers. comm).

Interpretive programs available during the summer include guided walks to Wilcoxan Pass to observe bighorn sheep. The locations of current wildlife sightings are posted at the park information centre in the townsite.

In addition to traditional interpretive programs the park staff also works with local business to promote wildlife. For the past four years, park staff, in conjunction with the Lobstick Hotel, have presented evening interpretive seminars to hotels guests, once a week, in the summer and autumn. Last year, 80% of the seminars presented dealt with wildlife.

Although in support of non-consumptive wildlife activities, park staff have expressed concern regarding the impact of non-consumptive activities on wildlife. The presence of observers appears to stimulate or stress the animals, causing them to rise or mill about, and resulting in higher than normal rates of energy consumption. This may be of particular concern to the animals during the winter months, when food is less abundant and energy conservation most crucial. The effects of non-consumptive wildlife activities must be considered and the activities managed accordingly (Van Tighum, pers. comm.).

Waterton National Park

Spectacular scenery and abundant wildlife are popular tourist attractions in Waterton National Park. The park is well known to tourists for its diverse and easily visible wildlife (Leiff, pers. comm.). It hosts 227 species of birds and 55 species of mammals (Provincial Museum of Alberta, 1980), and has been designated a World Biosphere Reserve.

Park staff actively promote wildlife viewing, through a variety of interpretive programs (Leiff pers. comm.). Black bears and grizzly bears are a popular tourist attraction. For years, park interpreters have been setting up spotting scopes at the Cameron Lake parking lot to allow tourists to observe bears. In recent years this activity has become very popular, attracting up to 150-200 people during one session (Berris pers. comm.). The park, in conjunction with the private sector and Yellowstone National Park, is currently establishing the *"Trail of the Great Bear"*. This will be a signposted driving route, from Yellowstone to Banff, that will pass through, and indicate, areas in which there are high concentrations of resident grizzly bears. The project is an effort to increase people's awareness of bears and their need for wilderness habitat.

There is good potential for birdwatching activities in the park, particularly at Waterton Lakes, as Waterton Valley is part of the Pacific and Central migration flyways (Leiff, pers. comm.). The best time to observe migratory birds, particularly waterfowl, is in the autumn, and the best birdwatching locale in the park is Maskinonze Marsh, where Canada Geese, Snow Geese, ducks, coots, Whistling Swans, Herons and Bitterns can be seen (Provincial Museum of Alberta, 1980). The grassland habitat within the park hosts several additional species such as Mountain Bluebirds and Broadwing Hawks. In the spring Sharp-tailed Grouse can be seen on their dancing grounds (Provincial Museum of Alberta, 1980). Some interpretive, birdwatching excursions are conducted by park naturalists during the summer, however, birdwatching programs don't appear to be heavily emphasized among interpretive programs (Berris, pers. comm.). A checklist of bird species found in the park is available at the Interpretive Center.

The interpretive programs offered by the park are supplemented by programs offered by the Waterton Natural History Association. This local, non-profit organization sponsors the Waterton Heritage Education Program, whose mandate is public education. The program, in existence since 1982, sponsors guest speakers, who are experts in their fields, to lead one to six day courses, involving lectures and field trips given to small groups. Many of the courses offered have wildlife themes. Some of the land surrounding the park is also used for these programs. The local private sector is also involved to a degree; local ranchers give guided trail rides through the park and surrounding areas. Most of the interpretive program advertising takes place only within

the park. Participation rates in most programs indicate that there is no need to advertise programs outside the park (Berris pers. comm.).

Perhaps most notable of Waterton's wildlife resource are the ungulates. However, this remains a largely unexploited viewing opportunity. (Leiff, pers. comm.). In the autumn, there are large concentrations (about 1,000 animals) of bugling elk that are easily visible in the open grasslands surrounding the town site. In November and December, rutting mule deer can be observed right in the townsite (Berris, pers. comm.) and bighorn sheep are often seen engaged in preliminary rutting battles in the fall, at low elevations (Provincial Museum of Alberta, 1980). However, most of these displays are not widely observed, except by local people. Waterton Park is primarily a summer destination. About 65% of the over 590,000 annual visitors to Waterton, visit the park during the summer months (Table 20). The majority of businesses located within the park close during the winter season due to low demand. The viewing opportunities provided by rutting ungulates and migratory waterfowl suggest that autumn could be a significant tourist season in Waterton National Park, if promoted as such.

Visitor residence profiles are not currently available for the park but a marketing study that was jointly conducted by Parks Canada and Alberta Tourism in 1987, should fill some of the information gaps. (Berris, pers. comm.).

Elk Island National Park

Wildlife is the major interpretive theme of this national park (Chapman, pers. comm.). Wildlife resources in the park include over 200 species of birds and 35 species of mammals (Provincial Museum of Alberta, 1980). Unique to this park is the dense population of large ungulates. There are currently 3,000 ungulates within the 194 km^2 of park. There are 400-500 white-tailed deer, about 500 moose, approximately 1,000 elk, and most notably, 500 plains bison and 250 wood bison. The elk within the park (*Cervus elaphus manitobensis*) are also unique as they are a different subspecies from that found in the Rocky Mountains. The subspecies found in the park once roamed the prairies but is now much restricted in its range. The park herd is currently the most northerly located population. The park also boasts the purest and largest remaining herd of plains bison in the world, and the animals are easily visible to visitors. The wood bison, which are kept separate from the plains bison, are now also easily visible from a new 18.5 km skiing/hiking trail that runs through that area of the park where the wood bison are kept. The Trumpeter Swan is currently being reintroduced to the park, but at present visitor access to the nesting areas is restricted because swans are sensitive to disturbance. Checklists of the mammals and birds found in Elk Island Park are available at the interpretive centre.

Wildlife viewing and education are actively promoted using park brochures and over eighty interpretive exhibits. However, much of the park promotion is done locally, through travelling exhibits to schools and malls located within the surrounding regions (Chapman, pers. comm.). Approximately 80% of the over 300,000 annual visitors to the park are from the greater Edmonton region (Table 20) and most of the other visitors use the park as a stopover on their way, via Highway 16, to other destinations (Chapman, pers. comm.).

Wood Buffalo National Park

Wood Buffalo National Park is advertised as a wilderness park. It has several unique wildlife resources. Whooping Cranes nest in the northern area of the park and many interpretive exhibits, including films, feature this species. They are, however, considered to be too sensitive to allow visits to the nesting sites (Rosen, pers. comm.). The Athabasca delta is an important staging area for migratory waterfowl, and has tremendous potential as a birdwatching location (Rosen, pers. comm.). There is a large free-ranging population of bison, most of which are hybrids of plains and wood bison. The most northerly existing red-sided garter snake hibernacula are located within the park. The spring emergence of the snakes from the hibernacula is a popular local attraction (Rosen, pers. comm.).

Campgrounds and day use areas are available near the few roads that enter the park from the Northwest Territories, however, most of the park is only accessible by hiking and boating. Park visitors are therefore encouraged to participate in guided tours. Park staff have been encouraging the private sector in nearby communities to apply for guiding licenses and to offer services to the public. In particular, they are encouraging residents of Fort Chipewyan to give wilderness, fishing, wildlife viewing and photography tours in the Athabasca Delta (Rosen, pers. comm.). There is, at present, one licensed wilderness guide successfully operating a small business in the northern section of the park. He has been guiding in the area for ten years and offers activities such as bison viewing, migratory bird watching, and tours of a White Pelican colony. He actively advertises in North America, Japan and Europe, and is currently focusing on the overseas market (Von Pelt, pers. comm.). Also available locally, through the private sector, are *"flight seeing"* tours over the park.

Over the years 1981 to 1984, the average annual park visitation rate was 1,821 people. In 1981/82 78% of visitors to the park were from the Yukon and Northwest Territories, and 22% were from other areas including Canada, United States and Europe (Parks Canada 1985). A marketing study is planned for the park, in 1988. (Rosen, pers. comm.).

Saskatchewan

Our initial assessment of wildlife-related tourism activities concluded that Saskatchewan was doing very little to incorporate these opportunities into their general tourism stragegy (D. Stewartson, D. Sherrett pers. comm.). A later examination of the Great Saskatchewan Vacation Book (similar in intent to Alberta Touring Guide) substantially contradicted this initial assessment. A full 10 pages of Saskatchewan's 129 page document are committed to fishing, hunting, and non-consumptive wildlife opportunities. Details include species, location, time of year, license requirements, availability of nature tours, references to detailed informaton, etc. etc. Two full pages of text are devoted to wildlife viewing opportunities.

Although it is obvious that Saskatchewan feels they are doing little, their promotional material on wildlife related opportunities is substantial and sophisticated. Alberta's efforts pale by comparison.

British Columbia

Like Saskatchewan the Ministry of Tourism in British Columbia does not focus on wildlife related opportunities in their general tourism strategy (D. Henderson pers. comm.).

The Ministry of Environment however is currently formulating a wildlife viewing policy that will result in major emphasis reflected in increased budget and manpower (R. Kowalilack, pers. comm.). British Columbia has recognized the growing participation in non-consumptive wildlife activities and expect their emerging program to be a major focus of the department.

British Columbia expects to have some functional program operable by late summer of 1988. The initial focus will be on birds and large mammals.

The guiding industry is increasingly directing their efforts toward accommodating non-consumptive wilderness trips.

Northwest Territories

Non-consumptive wildlife activities are a small, specialized area of tourism in the Northwest Territories. However, the government has perceived a growing market for these activities and they have responded by increasing promotion of non-consumptive wildlife recreation (Thompson, pers. comm.). In 1988, for the first time, non-consumptive wildlife recreation is

being actively promoted through text and illustrations, in all the tourism advertising forums. In the past, wildlife has been promoted under the broader area of wilderness adventure tours. In the *1988 Explorer's Guide to the Northwest Territories* wildlife viewing and photography, and naturalist tours are being promoted as a separate activity category, along with hunting, fishing and wilderness trips. Northwest Territories Tourism brochures refer to general areas where certain species of wildlife are likely to be seen but emphasis is placed on the opportunities for non-consumptive wildlife recreation that are available through independent licensed guides or lodges. Several naturalist lodges (those whose primary focus is non-consumptive wildlife recreation) do exist in the Northwest Territories suggesting that such a market also exists (Livingston, pers. comm.). Available services are listed in the tourism brochures produced by the government.

Recreational hunting is also a featured activity in the tourism brochures. In the past, promotion of hunting was done on a small scale only, due to perceived anti-hunting pressure from the public. However, recently, renewed interest in recreational hunting has resulted in more prominent advertising (Thompson, pers. comm.).

To date, there have been no socioeconomic studies of recreational hunting or non-consumptive wildlife use undertaken at the Territorial level (McKendricks, pers. comm.).

Yukon Territory

The promotion of wildlife tourism in the Yukon has traditionally focussed mainly on recreational hunting (Kostelnik, pers. comm.). Hunting opportunities are widely available through the services of independent outfitters and lodges. The government works with the outfitters to promote recreational hunting but the onus for promotion of business is on the private sector. A government program (*Partners in Tourism*) allows the government to share up to one half of the cost of promotion with the individual companies (Kostelnick, pers. comm.). This program also applies to outfitters offering adventure or wilderness trips, such as river rafting. At present there are no private lodges in the Yukon specializing in non-consumptive wildlife recreation (Tuak Environmental services, 1987). Several regional economic studies of the outfitting/wilderness industry have been undertaken but no such study exists at the territorial level (Fuller, pers. comm.).

In the past, the Yukon government has not emphasized non-consumptive wildlife recreation in tourism campaigns. Wildlife has been promoted only as part of the larger, wilderness experience offered by the Yukon (Kostelnik, pers. comm.). Areas where tourists are most likely to see certain species of wildlife, such as grizzly bears in Kluane Park, are mentioned in

brochures, and photographs of wildlife are featured, but that is usually the extent of advertising. This approach is taken because experience has proven that when wildlife is strongly emphasized in promotional material and then not easily observed by tourists, the tourists leave the Yukon disappointed. Kostelnik (pers. comm.) feels that wildlife viewing opportunities are too inconsistent, under the current conditions, to be highly profiled in advertising campaigns. At present, with the exception of the Dall sheep exhibits at Sheep Mountain and Kluane National Park, the infrastructure and facilities necessary for wildlife viewing are not available.

The current approach taken by the government may be on the verge of changing. In 1982, a study focusing on the Yukon adventure/wilderness travel industry reported a large potential for growth in wilderness tours based, among other factors, on the fact that wildlife viewing and nature trips rate as one of the most desired types of wilderness holidays in Europe and North America (Thorne, Stevenson & Kellogg, 1982).

In 1986, the government commissioned a study of the potential for non-consumptive wildlife management in the Yukon. Study recommendations included:

1. Development of a policy that enhances non-consumptive wildlife uses;
2. Development of a strategy for implementing a non-consumptive wildlife program;
3. Implementing tourism promotion programs to highlight wildlife viewing opportunities in the Yukon; and
4. Development of facilities to enhance wildlife viewing (Tuak Environmental Services, 1987).

In addition several specific sites were recommend as having good potential for pilot projects. Government response to these recommendations is not known.

In 1987, a case study was commissioned to analyse the potential for using the Contingency Valuation Method as a means of evaluating non-consumptive wildlife recreation. The case study involved the application of this method to a potential waterfowl viewing site at a lake in the Whitehorse vicinity (Fuller, pers. comm.). Study results are currently being analysed and are therefore unavailable. At present, no economic data are available concerning the contribution of non-consumptive wildlife recreation to tourism in the Yukon (Kostelnik, pers. comm.).

Although the future direction of wildlife tourism in the Yukon remains uncertain it is clear that the government is interested in assessing the tourism potential associated with non-consumptive wildlife recreation.

Alaska

The billion dollar tourism industry that currently exists in Alaska is based primarily on Alaska's scenic natural attractions and the wildlife that these areas support. According to a 1987 visitor survey conducted by the Division of Tourism, five of the top ten tourist destinations in Alaska were areas of natural phenomena, of which wildlife is considered to be an integral part. For example, one third of Alaska's visitors travelled to Denali National Park with the hope of seeing wildlife. Wildlife and scenic attractions were the two most important reasons cited by tourists for visiting the state, and wildlife watching was the activity with the highest level of participation in every region of the state. Birdwatching, in the casual sense, such as while touring other attractions, was the activity with the second highest overall participation. Results of a recent marketing study indicate that nearly one third of those people who are interested in visiting Alaska were also interested in participating in guided birding, wildlife viewing or photography (Klugherz, 1988). Recreational hunting is also a popular activity (Alaska Department of Fish and Game, 1988). Precise figures regarding participation rates were not available.

The state government recognizes the importance of wildlife to its tourism industry and actively promotes both the consumptive and non-consumptive wildlife-related recreational opportunities available in Alaska (Lyman, pers. comm.). The abundant wildlife resources are prominently featured through photographs and a narrative, in the *1988 Alaska Official Vacation Planner*..In addition, the Alaska Department of Fish and Game has produced a promotional video, *Alaska's Special Areas*, that describes unique areas of the state that host unusually high densities of wildlife (Table 20). These areas have been granted official status, such as Critical Habitat Areas, and set aside as non-development areas for the preservation of wildlife and habitat, and for recreational use by the public. Hunting is also allowed in some of these areas, although in the video, particular emphasis is placed on the wildlife viewing opportunities.

In some areas, facilities have been constructed to enhance wildlife observations, and management plans are in place to minimize human impact on the wildlife and to ensure viewer safety. For example, in the Chilkat Valley several roadside pull-offs have been constructed to enable motorists to stop and view the numerous Bald Eagles fishing in the Chilkat River. Parking areas and viewing platforms have been constructed at Potter Mash to provide easy access for waterfowl viewing. At the McNeil River Game Sanctuary a permit system has been established to control the number of visitors coming to observe the brown bears. Visitors can readily view the bears from the gravel pads that have been constructed near the river's edge. As a result of

careful monitoring and administration by sanctuary staff, there have been no recorded instances of human injury, and the bears appear to have adapted to the presence of people. A permit system is also used to control visitor access to the Walrus Island State Game Sanctuary. Up to 15,000 walrus can be observed at one time, on Round Island, a traditional hauling-out site. Visitation is controlled because walrus are known to abandon their haul-out sites if they experience frequent harassment by humans.

Recently, the economic value of wildlife resources has become a major issue in Alaska. The government is trying to assess the economic value and net benefits associated with wildlife and the related consumptive and non-consumptive recreational activities. The most recent issue of *Alaska Fish and Game*, a bi-monthly magazine published by that department, is devoted solely to this theme. At present, economic data concerning non-consumptive activities are unavailable, however, some preliminary data provided by the Department of Commerce and Economic Development, Division of Tourism, regarding recreational hunting is available (Thomas, 1988). These data give some indication of the contribution made by hunters to the state economy. In 1985, resident Alaskan hunters that actively hunted goat, moose and deer, in Southeast Alaska spent a total of $5.5 million. Non-resident hunters that sought these three species in the same area, spent a total of $300,000. Daily expenditures by non-resident hunters were considerably higher than expenditures by residents of the local communities (Table 22). Non-resident goat hunters spent, on average, over three times as much as resident hunters.

A hunter survey conducted by the State Department of Fish and Game revealed that in 1983, resident Alaskan hunters spent a total of $6.2 million dollars hunting Dall sheep alone (Watson, 1988), or $1,500 per hunt. The average non-resident sheep hunter spent $8,000 per hunt. Additional expenditures, by non-resident sheep hunters contribute significantly to the state economy. Non-resident sheep hunters spent approximately $760,000, on hunting other species and on items not related to hunting, while in Alaska. Non-resident sheep hunters accounted for only 17% of the hunters active in Alaska that year.

TABLE 21
ALASKA'S SPECIAL AREAS HIGHLIGHTED ON THE PROMOTION VIDEO

Area	Approximate Location	Unique Wildlife Feature
Mendhall Wetlands State Game Refuge	Juneau	—staging area for migratory birds, particularly waterfowl & shorebirds
Copper River Delta	SE Alaska	—staging area for 20,000,000 shorebirds
Potter Marsh State Game Refuge	Anchorage	—waterfowl & shorebirds
Creamers Field Game Refuge	Fairbanks	—feeding area for waterfowl & cranes
Katchemak Bay State Critical Habitat	Kenai Peninsula	—marine park, marine mammals
McNeil River State Game Sanctuary	SW Alaska	—up to 20 brown bears visible at one time
Walrus Island State Game Sanctuary	Bristol Bay	—up to 15,000 walrus, various nesting sea birds, sea lions
Chilkat River Critical Habitat Area	Haines	—up to 3,500 Bald Eagles fishing in the area at one time
Susitna Flats State Game Refuge	Anchorage vicinity	—yields 10% of State's waterfowl harvest
Palmer Hay Flats Game Refuge	Anchorage vicinity	—second most popular waterfowl hunting area, popular viewing area
Anchor River & Pritz Creek Critical Habitat Area	Homer Vicinity	—wintering area for up to 500 moose

TABLE 22

AVERAGE EXPENDITURES ($) PER DAY BY GOAT, MOOSE AND DEER HUNTERS IN SOUTHEAST ALASKA, IN 1985

Species Hunted	Resident Of Juneau/Douglas Ketchikan, Petersburg & Sitka	Non-Resident Hunters	All Hunters	Total Annual Expenditures By All Hunters (in million $)
Goat	236	807	350	0.6
Moose	250	589	200	0.8
Deer	188	358	120	4.5

Source:
Alaska Fish & Game. 1988 Vol. 1. Hunting: Economic Expenditures and Benefits in Southeast Alaska.

Challenges in Wildlife Tourism Enhancement

If we collectively agree that Alberta has world class wildlife tourism potential, then the question that must be asked is *"why is this potential not being effectively exploited?"*

In an attempt to determine the tourism industry's current attempts to market wildlife opportunities we reviewed the Alberta Touring Guide. Of approximately 750 entries, about 25 mentioned wildlife or a particular species of wildlife. Of these, about 12 referred to wildlife in a captive environment such as game farms, wildlife parks and privately owned bison. The total space allotted for all Alberta wildlife was less than that committed to advertising the Ukrainian Cultural Village. This is not to suggest that it is unimportant to promote our cultural heritage, but rather to suggest that our natural resources heritage has been forgotten by the tourism industry. It is noteworthy that although Alberta has long had a reputation as a *"hunters paradise"*, hunting is not mentioned in the tour guide.

A. This example is symptomatic of a whole array of problems. Although we have a wealth of wildlife information for Alberta it is scattered in numerous books, publications, and pamphlets, and much of it is hidden in government files. The consequence of this information banking is that Albertans are relatively *"wildlife illiterate"* and the international traveler couldn't interact with the wildlife resource unless first going to a bookstore or making numerous inquiries at government offices. The information simply is not readily available.

Clearly this literacy rate will not improve unless, and until, the public has access, in an ongoing fashion, to information on our wildlife resources and the geographical, geological, ecological, features of the environments in which they persist.

Certainly there are a number of options which can be examined and implemented. In our opinion, monthly or bimonthly magazines such as Montana Outdoors, Oregon Wildlife and Wisconsin Natural Resources are excellent vehicles for transmitting natural resources information.

B. The promotion of wildlife tourism will require a well coordinated effort among several government departments, particularly Alberta Tourism, Forestry Lands and Wildlife, Recreation and Parks, and Parks Canada.

A good example of the need to coordinate was given by the National Bison Range staff. In 1987, the State of Montana decided to promote the National Bison Range in their publications. However, they forgot to advise the National Bison Range which is under federal jurisdiction. As a result the National Bison Range ran out of pamphlets after a few weeks.

Alberta Tourism could, and should, take a leading role in establishing forums for a continuing dialogue among all the major players in the wildlife tourism industry. Since Alberta Tourism has no management prerogative for wildlife any other action will fail.

C. Wildlife demonstrates a broad spectrum of tolerance to human activity. Some species are extremely sensitive to human intrusion while others are less so. This sensitivity can vary throughout the year. Adult females with young will normally tend to be most sensitive. For example, significant mortality could be induced on a pelican colony through disturbance for an hour on a hot day in the early fledgling stage.

Planning for the effective exploitation of wildlife tourism opportunities must proceed with the fragility of the ecosystem as a priority, keeping in mind that indiscriminate human behaviour during a non-consumptive experience can be as devastating as indiscriminate behaviour during a consumptive experience.

D. Wildlife tourists are not all rugged individualists but represent a broad spectrum of humanity from diverse backgrounds. The development of facilities, structures, etc. must bear in mind that spectrum, and given the *"greying"* of the population perhaps particular emphasis should be placed on this cohort.

E. A common complaint among non-resident waterfowl hunters is the lack of guiding services which, in the context of southern Alberta, vanished with the collapse of pheasant hunting in the late 1960's. An enhancement of non-consumptive opportunity will also necessitate an improvement in the quality and quantity of guiding services. Self-guided tours have limited application in remote areas.

F. Wildlife resource opportunities that exist in privately-owned lands represent another problem or, at the very least, a challenge. Wildlife is owned by the Crown, but the landowners control access to it. Under current legislation the landowner cannot derive any benefit from providing hunters access to the resource.

The point is that unless landowners become a meaningful participant in providing public access to the wildlife resource, opportunities will continue to be lost for both the consumptive and non-consumptive groups.

G. Alberta Fish and Wildlife like most wildlife management agencies in Canada, spends an overwhelming proportion of its resources on providing programs exclusively for the consumptive cohort who, on the basis of participation rates and economic contribution, are the substantial mi-

nority. It is therefore difficult, in the absence of any significant existing program, to promote and market wildlife tourism opportunities. There is simply no basis from which to proceed.

At the same time, there appears to be a reluctance on the part of Alberta Tourism to recognize that hunting is a long-standing recreational pursuit, firmly entrenched in government policy and legislation, which has opportunities for enhanced economic activity by residents and non-residents.

Clearly the middle ground lies in an enhanced commitment to non-consumptive participants by one agency and an overt recognition of consumptive participants by the other.

Implementation Framework For Alberta

If there is general agreement that wildlife tourism, of and by itself, can make a significant contribution to Alberta's economy and further that wildlife as an adjunct to other tourism activities can enrich this contribution, then, an implementation strategy logically follows. The economic analysis, participation rates and potential opportunities all tend to confirm the importance of wildlife. The question that remains is *"how can these opportunities be effectively exploited?"*.

We do not propose to outline detailed strategies for any specific opportunity. The specifics follow from the generalities and it is facets of the generalities that need to be addressed. In that context, then, it is suggested that a two-pronged approach, one dealing with immediate needs, the other with long-term necessities, may be the most appropriate.

The Immediate

A. If wildlife-related opportunities are to become a meaningful element in the general tourism strategy then, very clearly, information on wildlife opportunities must be readily available to the general tourist population.

Our examination of the Alberta Touring guide indicates that this is not the case at present. For example, Beaverhill Lake is recognized as a major bird watching site in Canada and has international recognition as a wetland. Beaverhill Lake is not mentioned in the Touring Guide. There are innumerable other examples where major wildlife features are simply not mentioned. Clearly there is an urgent need to incorporate wildlife opportunities in the readily available promotional print material.

B. The highway travelling public, with a few exceptions, cannot access the wildlife resource opportunities for lack of any appropriate signs. Our preliminary assessment indicates that there is not a single highway sign in Alberta that would point a tourist in the direction of a wildlife opportunity. Again we can use the example of Beaverhill Lake. The sign points to Beaverhill Lake but provides no additional information on its tourism potential.

An example where a highway sign may be appropriate is at Walsh Flats. Canada's largest winter concentration of antelope is located along Highway #1 and centred around the Town of Walsh. Currently there is nothing there to draw the travellers attention to the wildlife opportunity. The point to be made here is that highway signs with the minor addition of turnout interpretative displays, etc. would make a major contribution toward an enhanced wildlife-related opportunity.

The Long Term

A well conceived long term strategy will be prerequisite to effectively exploiting Alberta's wildlife opportunities as separate events or as adjuncts to other tourism activities. Four major undertakings are proposed.

1. COORDINATION

The nature of wildlife as a Crown resource which resides on provincial, federal and private lands, and of which many species migrate to other countries, will dictate a level of coordination among a number of groups and agencies that most other tourist activities do not require. The principal participants in integrating wildlife into the tourism strategy are Alberta Tourism, Alberta Forestry, Lands and Wildlife, Alberta Recreation and Parks, and Parks Canada. By nature of their comprehensive mandate Alberta Tourism should take a lead role in developing a coordinating infrastructure.

Since any meaningful coordinating attempts spring from ministerial approval the first steps must be taken at that level. Alberta is fortunate in having the key ministers with experience in both tourism and wildlife portfolios. A concise statement outlining purpose, objectives, participants and establishing working level committees appears to be the only essential prerequisite at this time. The necessary details should flow from this initiative.

2. INFORMATION

In addition to the short term information needs already identified, there is need to provide residents and non-residents with information on wildlife and related opportunities in an ongoing fashion. Wildlife and other natural resource features will not become part of the tourism experience with the amount of information currently available to the public.

The most common and apparently most cost effective method for transmitting relevant information is represented by monthly or bi-monthly magazines such as *Oregon Wildlife, Montana Outdoors, Wisconsin Natural Resources*, etc. These publications are readily available at low cost and provide the reader with comprehensive information on areas and associated natural resources and on particular species and opportunities.

Because no one department or agency has responsibility for all natural resources, it is suggested that an inter-departmental committee be established to provide a detailed examination of all costs and benefits associated with a regular publication that would provide a broad spectrum of natural resource information.

3. PROMOTION

Although Alberta currently has no program to promote wildlife-related tourism opportunities there is at least some evidence to suggest that modest promotional campaigns work effectively. In 1987 the State of Montana ran a promotional campaign in national U. S. magazines and in British Columbia and Alberta. As a consequence, the National Bison Range experienced a 14% increase in visitors that year. The National Bison Range prints some of their brochures in French and German and with 35,000 visitors on tours in 1987, 3,500 were from France.

In 1967, Alberta introduced the Zone 1 Moose Hunting License and advertised its availability in the Pacific Northwest (U.S.A.). Ten thousand Americans purchased Zone 1 Moose Licenses that year. The following year, with no advertising, only 4,300 Americans purchased the license.

These examples give some indication of the response rates to modest promotion efforts. The information needs already identified will go a long way toward providing some promotional capability.

4. DEVELOPMENT

The demographic analysis of wildlife tourists provided earlier, indicates that they come from diverse backgrounds and represent all age groups. Any developments proposed to enhance wildlife tourism will have to cater to this diversity. While the ardent birder may be content to slog through a marsh, the *average* birder may appreciate the convenience of a raised boardwalk and observation tower with a roof.

The objective of any developments must be to facilitate a positive interaction between people and the wildlife resource, while at the same time protecting the wildlife resource from undue disturbance. Developments such as interpretive sites, viewing areas, blinds and towers, strategic forest clearings, etc. are designed to provide these essentials.

Conclusions

Some of the major conclusions from the investigation are presented below in point form.

1. Albertans spent over $463 million on wildlife tourism in 1981. This is a higher per capita expenditure in both consumptive and non-consumptive activities than the national average.

2. Participation rates and demographic profiles suggest that non-consumptive opportunities (primarily viewing) represent the largest unexploited and unmanaged opportunity for development.

3. Alberta has numerous *world class* wildlife features and many of these are combined with *world class* scenic values.

4. Compared to neighbouring jurisdictions, Alberta's wildlife tourism opportunities are treated with a policy of *benign neglect.*

5. Because wildlife is a Crown resource, the enhancement of wildlife tourism will require a greater degree of government participation and inter-agency coordination than most other tourism attractions.

6. Effective enhancement of wildlife tourism will be contingent on effectively informing the Alberta and non-resident public on available opportunities.

Recommendations

The recommendations listed below are directed to Alberta Tourism and are areas characterized by information gaps and/or needed prerequisites to wildlife tourism enhancement in Alberta.

1. Wildlife tourism should be recognized as an important and integral part of the general tourism strategy.

2. Wildlife tourism opportunities should be integrated into the readily available promotional material immediately.

3. The cost effectiveness of a regular (monthly or bi-monthly) publication focusing on Alberta's natural resources and related tourism opportunities should be investigated.

4. Alberta Tourism should encourage more surveys to more accurately define participation rates, attitudes, expectations, etc. of wildlife tourists.

5. Alberta Tourism should take the lead role in developing an inter-agency coordinating framework to effectively promote and develop wildlife tourism.

6. Alberta Tourism should thoroughly examine the market potential of Europe and the Pacific Rim regarding wildlife tourism.

Literature Cited

Adamowicz, W. L. 1983. Economic analysis of hunting of selected big game species in the Eastern Slopes of Alberta. Unpublished M.Sc. Thesis, U of Alberta, pp. 183.

Alaska Dept. of Fish and Game, 1988. Alaska Fish & Game, Vol. 20 (1). pp. 29.

Butler, J.R. 1984. The myths, the reality and the challenges of managing for the non-consumptive wildlife user. Presented at: Workshop on Management of Nongame Species and Ecological Communities, Lexington, Kentucky. pp. 6.

Butler, J. R. and G. D. Fenton. 1987. Bird watchers of Point Pelee National Park, Canada, Their characteristics and activities with special consideration to their social and resource impacts. Alberta Naturalists, Vol. 17 (3). pp. 135-146.

Butler, R. 1986. Impacts of tourism: divots, depression, and dollars in Tourism and the Environment. Canadian Society of Environmental Biologists. Edmonton.

Filion, F. L., James, S.W., Ducharme, J., Pepper, W., Reid, R., Boxall, P., and D. Teillet 1983. The Importance of Wildlife to Canadians: Highlights of the 1981 National Survey. Canadian Wildlife Service, Environment Canada, Ottawa. pp. 40.

Filion, F. L., Jaquemot, A. and R. Reid. 1985. The Importance of Wildlife to Canadians: An Executive Overview of the Recreational Economic Significance of Wildlife. Canadian Wildlife Service, Environment Canada, Ottawa.

Fish and Wildlife Division 1984. Fish and Wildlife Contributions to the Alberta Economy. A Supplement to the Status of the Fish and Wildlife Resource in Alberta. Alberta Energy and Natural Resources, Edmonton, Alberta.

Jaquemot, A., Reid, R. and F. L. Filion 1986. The Importance of Wildlife to Canadians: The Recreational Economic Significance of Wildlife. Canadian Wildlife Service, Environment Canada, Ottawa. pp. 75.

Klugherz, M. 1988. Wildlife and the visitor industry. Alaska Fish and Game. Vol. 20 (1). pp. 14–15.

Lyons, J. R. 1982. Nonconsumptive wildlife-associated recreation in the U.S. : Identifying the other constituency. Transactions of the 47th North American Wildlife and Natural Resources Conference, Portland, Oregon. pp. 667-685.

Parks Canada 1985. Traffic and attendance figures, 1984-1985 to 1986-1987. Visitor Services, Parks Canada, Western Region, Calgary.

Phillips, W. E. and E. R. McElhaney 1977. A Socioeconomic Evaluation of Nonresident Sport Hunting Activity in Alberta. I.M.P.A.C.T. Environomics Ltd. for Alberta Fish and Wildlife Division, Edmonton. pp. 118.

Phillips, W. E., Depape, D. E. and L. Ewanyk 1977. Socioeconomic Evaluation of the Recreational Use of Fish and Wildlife Resources in Alberta with Particular Reference to the Athabasca Oil Sands Area. Vol. 3. Recreational Hunting. pp. 252.

Phillips, W. E. and W. S. Pattison 1970. Moose hunting activity in Alberta Big Game Zone 1: An economic study of wildlife management. Agricultural Bulletin, Fall 1970. pp. 12-16.

Prism Environmental Consulting Services, Spencer Environmental Management Services Ltd., Marv Anderson and Associates, and Land Sense Ltd. 1988. Grazing Systems for Wildlife Habitat Conservation. Prepared for: Canadian Wildlife Services Ltd., Ottawa. pp. 64.

Provincial Museum of Alberta 1980. A Nature Guide to Alberta. Publication No. 5. Hurtig Publishers. Edmonton, Albert. pp. 368.

Statistics Canada. 1982 1981 Census of Canada. Population Age, Sex and Marital Status. Catalogue 92-901. (Vol. 1-National Series). Minister of Supply & Services Canada, Ottawa.

Thomas, M. 1988. Hunting: Economic expenditures and benefits in Southeast Alaska. Alaska Fish and Game. Vol. 20 (1). pp. 16-21.

Thorne, Stevenson and Kellog. 1982. Wilderness/Adventure Travel Industry: Industry Overview and Development Strategy. Report prepared for Department of Tourism. Yukon Territorial Government pp. 211 in Tuak Environmental Service. 1987. The Potential for Nonconsumptive Wildlife Management in the Yukon. Report prepared for: Economic Development Management Committee, Renewable Resources Subagreement.

Travel Alberta 1983. 1982 Travel Alberta Survey: A Non-Resident Visitor Study: Summary Report. Vol. 1. pp.113.

Tuak Environmental Services 1987. The Potential for Non-consumptive Wildlife Management in the Yukon. Report prepared for: Economic Development Agreement Management Committee, Renewal Resources Subagreement. pp. 39.

United States Fish and Wildlife Service. 1987 1985 National Survey of Fishing, Hunting and Wildlife Associated Recreation: initial findings; Dept. of the Interior News Release. March 21, 1987. pp. 5.

Watson, S. 1988. Dall Sheep: What are they worth? Alaska Fish & Game. Vol. 20 (1). pp. 18-19.

Personal Communications

D. Berris –Interpreter, Waterton National Park, Alberta

M. Bishop –National Bison Range, Montana

Dr. J. Butler –Dept. of Forest Science, University of Alberta

R. Chapman –Interpreter, Elk Island National Park

D. Childress –Wildlife Division, Montana

S. Fuller –Policy Analysis & Development

R. Harding –Interpreter, Banff National Park

D. Henderson –Tourism, Recreation & Culture, British Columbia

J. Kostelnik –Dept. of Tourism, Northwest Territories

R. Kowalilack –Dept. of Environment, British Columbia

Dr. B. Leiff –Superintendent, Waterton National Park

R. Livingston –Renewable Resources, Northwest Territories

J. Lyman –Information Officer, Dept. of Fish and Game, Alaska

J. McKendricks –Parks and Tourism, Northwest Territories

M. Rosen –Interpreter, Wood Buffalo National Park

D. Sherrett –Director, Wildlife Branch, Saskatchewan

D. Stewartson –Dept. of Tourism & Small Business, Saskatchewan

K. Thompson –Research, Travel Arctic, Northwest Territories

K. Van Tighum –Assistant Chief Park Interpreter, Jasper National Park

J. Von Pelt –Alberta Adventure Guide